Thin clients ablaze Moving app burden to Web servers will cut costs add similar features to their popular devel



By Frank Hayes

Can a diet of Java help slim down fat client/ server applications? That's what users are hoping for as major application tool ven-dors begin to roll out support for the World Wide Web and Sun Microsystems, Inc.'s Java internet programming language.

Oracle Corp. this week will unveil pla

to let developers use its Designer 2000 and Developer 2000 tool sets to build applications in Java by the end of the year. And Microsoft Corp. and Powersoft Corp. plan to

present tools by year's end.
That's an appetiting menu for client/ erver developers, who use popular tools such as Microsoft's Visual Basic, Power-soft's PowerBuilder and Developer 2000 to

Corporate developers hope the new tools will let them write applications that reside mostly on servers. Only a small client proeram - written in lave and running on a Thin clients, tony 16



Distributed

management tames nets

Beta users of two recently updated network man

agement platforms are coping with runaway net-work growth by adding more distributed servers

NT users tempt fate with Registry Editor

By Laura DiDio

reing: Using Registry Edit perectly can coute systemuids blems and may require you to re-tail Windows NT to correct them. Microsoft cannot guarantee that any problems resulting from the use of the Registry Editor can be solved. Use this tool at your own risk."

Forewarned is forestmed, right? Not for some Microsoft Corp. Windows NT Server users who are blithely ignoring the warnings. They

change their network configuration without proper preparation or train

ing. Invariably, they suffer the consequences: severe system crashes that reader Windows NT servers and workstations uncless.

The Registry Editor is arguably one of the most powerful and potentially dangerous tools included in

Several early users Hewlett-Packard Windows NT: it is critical to finetuning and controlling NT servers Co.'s OpenView and Inc.'s Spectrum prod

ucts last week said the problems of rapidly exnanding networks are multiplying faster than age them.

By Patrick Dryden

to handle the load.

Chief among their

bases are swelling. which slows perfor mance and forces con

· Polling traffic is rising, so precious bands manage the network instead of has

whelms operators.

The solution turns out to be a be more servers, the merrier the managers.

Desktops hit disk barrier

By Bob Francis

ewspaper

Limitations in most desktop operating systems and PC hardware are becoming painfully obvious to IS managers as users switch to high-powered PCs bulked up with disk drives larger than 2G bytes. The issue is just one more factor encouraging corporations to take a closer look at Microsoft Corp.'s 32-bit Windows NT A few vendors, such as Dell Computer Corp. in

Austin, Texas, and Compaq Computer Corp. in Houston, are shipping systems with the large disk drives as standard equipment. And more are expected to follow suit by year's end. The issue for information systems is that the

Disk barrier, page 127



come tunes this year by telephs







tas pacted to receive a use the 25-year-old account executive at country music radio station WCYK in Charlottewille, Va., qualified to file his federal taxes by telephone.

"The process was surprisingly easy — it worked pretty well," said Marinos, one of the 2.6 million texpayers who filed their federal in-

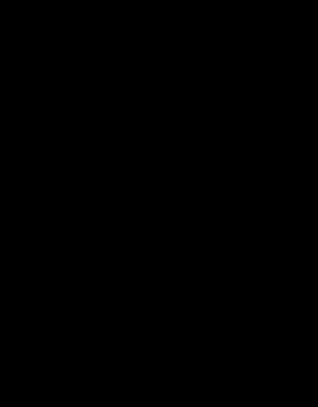
> Taxpayers who qualify for the brand-new Tele-File program use their telephone keypads to enter gion numbers and tax data into a distant

IRS, page 14

How Do You Turn Your Client/Server Mess...



...Into a Client/Server Miracle?



Client-Server Networkin

Welcome to the Client-Server family!

started with a revolutionary idea...

to build a software system that would really deliver client/server solutions rather than just add to the client/server mess.

We spent 2 years conducting extensive market research without trying to sell a single product.

We attended dozens of industry trade shows and conducted thousands of interviews, so that we could ask you — the **customer**.

- so that we could ask you the customer

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the first expert system-based
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which was instantly adopted by the U.S.
 Department of State, the Illinois Credit Union,
 AT&T, Unisys, CNA Insurance, and many others.

But we didn't stop there.

interviewing thousands of

people at trade shows and gathering feedback from our existing Customers about how to improve the CS/7,000. Six months later, in November of 1995, we

launched our second product the CS/8,000

oriented toward providing workgroup-level solutions with more than twice the functionality of the CS/7.000

— which became a **runaway success** almost overnight. In the last 5 months we have sold the CSB,000 to hundreds of corporate, military and government clients, including many of the Fortune 1000, the U.S. Als Ears the Department of

Education, and the Federal Reserve Bank Why has the CS/8,000 been so wildly successful?

To our knowledge, we are the only software vendor on the planet to provide all of this powerful functionality in a tightly integrated package

- INTELLIGENT QUESTIONNAIRES
- EXTENSIVE VIRTUAL METHODOLOGY
- GRAPHICAL CLIENT/SERVER ARCHITECTURES
 AUTOMATED PROJECT DOCUMENTATION
- COMPREHENSIVE PRODUCT SELECTOR

we didn't let our success go to our heads.

Rather, we continued to conduct exhaustive market research and ask our existing and new clients what else they needed to help them **succeed** in the world of client/server

Now the story continues with the intro-

duction of our next-generation product the CS/10.000

dedicated to providing larger scale solutions which can range from a single site all the way up to

enterprise-wide systems
— destined to become the **ultimate**client/server design, planning and
management tool for multinational
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users at all levels.

The CS/10,000 adds these sophisticated features to the already potent problem-solving capabilities of the CS/8,000:

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- GRAPHICAL NETWORK ARCHITECTURES
 MELIDAL NETWORK-RASED PROJECT
 - ESTIMATOR
 - PRODUCTS REPOSITORY
- SEAMLESS LINKS TO COMPREHENSIVE

ng Solutions, Of Course!

In fact, the CS/10 000 solves so many of the computing challenges faced every day by people like yourself, from network administrators to project managers to CIOs, that we were back-ordered the first week we announced the product!

Organizations like Samsung, the University of Maryland, Deutsche Bank and Blue Cross/Blue Shield are already putting CS/10,000 to work for them to achieve rapid delivery of successful client/server and networking solutions

But we weren't ready to take a vacation quite yet.

instead, in the spirit of true kaizen we decided to export the robust new technology we had developed for the CS/10,000 back into the CS/8,000

So now we offer you two sophisticated and nowerful tools -

the C5/8,000 for workgroup and

departmental-level solutions, and the CS/10,000

for larger projects scaling up to enterprise-wide solutions

- both priced significantly lower than other competitive product. How can we offer you so much cutting-edge technology for 1/3

to 1/2 the price of the competition? Because we have built an efficient operation without a lot of expensive middle management and fancy

offices, so we can and do pass our savings on to our customers.

(By the way, watch out for our upcoming next-generation

product, the CS/12,000, which we will be launching at Comdex this year. We can't say too much yet, but it will introduce the first Al-driven virtual network architectures, among other things. We promise it will be unlike anything the

computing world has ever seen...) So if you would like to witness computer spence history in the making, please come DB Expo

ioin us at

April 16 - 18 at the San Francisco Moscone Convention Center Booth #612.

We'll be launching the CS/10,000, soon to be the premier tool for providing medium to large-scale client/server and networking solutions, as well as the next-generation version of the CS/8,000, for workgroup and departmental-level solutions.

Or, if you're unable to attend the show please contact us to request free product literature for the CS/8,000 and CS/10,000, in addition to glowing industry reviews and accolades for the entire CS family of products.

The **Software** is the Solution

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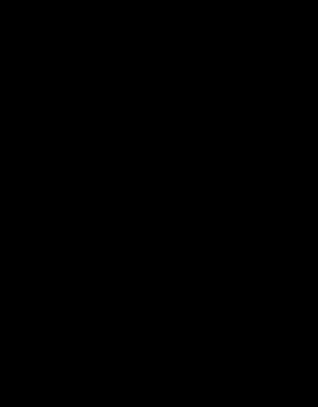
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Domestic and International reseller inquiries are cordially invited atthe numbers listed above.

WE ARE CLIENT/SERVER CONNECTION, LTD.



● IDG Inside <u>Computerworld</u>

News

- Customized client/server announce tools that automatically configure entermase soft.
- way of doing business New notebooks coming ers will get lighter notebooks from a slew of vendors.
- DB/Expo Middleware, data warehousing
- and the Internet will dominate product announcements at DB/Expo, which convenes
- Object-oriented programming Object-oriented technology requires some serious care and
- feeding to fulfill its promises. 16 AS/400 IRM is prepaine Windows 95
 - based systems management software for AS/400 users.
- OPINION Apple's survival
- Apple's newest strategy may not sit well with users, Paul Gillin says
- Deja Vax Bill Gates and Ken Olsen are two of a kind, Bill Laberts says. Olsen's problem was open systems. Gates' problem is the
- internet access David Strom says to think twice before using a telephone company asyour Internet service

ncovider.

Where's the productivity? Paul Strassmann has the num bers to show the "computer paradox" is alive and festering



Choice Cuts

ing for the Futur Jership Roundte

Vithout a crystal ball, how can nu foresee the skills your IS tea will need in the future? Pive IS

leaders share their stra · Leadership Series · wing page 40

panies are being forced to go ide for most IS training. The it: new roles for both inte ad contract trainers

> Careers See page 106



Technical Sections

SERVERS & PCs Look homeward, PC buyers

- Corporate buyers should look at their home PCs to see what's coming to the business market
- Web security Two companies will make the World "Wild" Web a safer
- SOFTWARE

- Faster database queries Sybase's IQ database engine speeds queries by up to 500 times compared with com-tional RDBARSs, users and
- New applicat velopment tools versalt's fort ng tool set, Optima++, and

ualAge for C++.

- Wizards in NT A.O 4.0, due out this summer, will contain a new set of heip tools. collect Wiresele Management software IBM and Twoli outline plans to
- link their combined TME so software with packages from tool vendors and even competitors.

THE ENTERPRISE NETWORK

The next release of Windows NT

- THE INTERNET Linking databases to the Web
- rate databases can be a royal Routers on the 'net Cisco is trying to broaden the
- ranks of internet-eligible users CORPORATESTRATEGIES
- Corporate spying Industrial espionage is on a sharp rise, survey shows.



Meet the 'net enforcers

If your posts are out of line, they can clue you in or dram you out. Page 103.

Features

MANAGING Balancing work and family

- lob stress burts family (de for IS professionals. Here's how IS managers can heln ... BUTYER'S GUIDE
- Enterprise DBMSs
- IN DEPTH
- 'net vigilantes
 What makes these self-appoint ed arbiters of electronic bad taste run?
- Training
 (Strainers must learn new roles. MARKETPLACE
 - er and are more in vev get bet
 - PINANCE & INVESTING
- Taxes ft's April 15. Time to start plan ning for next year.

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altcw

re you tired of that laptop machine slipping off your lap? Keep that rascal in place with Velcro adhesive strips attached to the PC's underside and aleg-encircling lap strap. The laptrek, which costs \$14.95, is available from ConnecTec International in Modesto. Call

Digital Frontiers

The world is becoming a web of wired and wheless setworks. But for mobile uners, switching from wired to wholess and back is still a hassle; it means constantly logging on and off sach network.

off such network.

Many G. Baker (at right),
an assistant professor at
Stanford University, wants
to make such moving
around a matter of software

to make such moving around a matter of software and protocols that are hidden from users. She calls the cucapt "continuous connectivity" and has developed a prototype called Monopulicities.

For example, when below takes her looks of the country, when below takes her looks outside or to the litters, and the country of the country

under the covers.

The prototype uses a subset of the draft intennet Prototopie uses a subset of the draft intennet Prototopie uses a subset of the draft intennet seal and the different nebroirk sneeds and arm rates. — Mitch Betts

Internet ignorance Index The percentage of consumers from five countries who say they h sever heard of the internet

Germany France

Sweden 275

yp Determed, jul Sented, LAN S.

News shorts

GE brings CIO to light

General
Electric Co.
named Gary
M. Reiner as
its first-ever
corporate
chief information offcer last

cer last
week.

The move
is aimed at
cross-pollinating technology
opportunities

opportunities

opportunities

across the opportunities' company's 12 business urits and improving customer services. As vice president for corporate business development, Reiser, 41, spear-

anded GE's quality improvement programs.

The dezen CIOs responsible for each of GE's business units will

ach of GE's business units will report to Reiner, who said he intends to help GE use technology to generata "top-line revenue oppor-

Having a corporate CIO to overnee activities throughout its diversitied operations makes seems for GE, which is trying to capitalize on the first growing services opportunities with its massive installed cus-

tomer base, industry observers said.

Apple PC sales tumble
Sales of Apple Computer, Inc. PCs to
corporate customers fell 24% in January
and February, according to market re-

search firm Computer Intelligence InfoCorp.

Apple has already said it expects to post a loss of more than \$700 million in the first quarter of 1996 due to excess

Inventory and declining demand. Prodigy cuts staff by 17% Running a distant third in the co-line race, Prodigy Services Co. lant week

race. Prodigy Services Co. Inst week said it is laying off 115 of its 680 employees, mostly from company headquarters in Waite Plains, N.Y. Prodigy officials said the cuts are primarily in areas that the company no

longer needs as it shifts to an Internetbased service. It is rewriting many of its premium offerings in bypertext programming language so they can be accessed through a World Wide

cessed through a World Wide Web format, a cheaper and easi er delivery system than the current mode.

Some analysts speculite the cuts may also be designed to boost profits to attract investors. Profitgy is pirititly owned by IBM and Sears, Roebuck and Co., but Sears has been searching for a buyer to take over its half of the investment. Profitgy management is reportedly trying to bur the company.

The following is a list of things you shouldn't do — repeat, should not do — when making Usenet (or other on-line) posts (original author unknown):

Out four addressees, five lines of "geek code," six ASCII art bicycles,

 Put four addresses, five lines of "geek code," six ASCII-art bicycles, a Pretty Good Privacy encryption key and your home telephone number in your signature.

 Determine a perversion so bizarre or obscure that it doesn't have its own altaex newsgroup yet.

Start this week's America Online virus rumor.

Somet your ports for 90 columns (or 20).

Format your posts for 90 columns (or 20).
 Fill that empty electronic mailbox, make new friends, delight your post-master and selflessly lead others to riches with a few "Make Money Fast"

Cross-post Amiga articles to the Macintonh and PC newsgroups for a valuable interchange of prosocutive ideas.
 Correct every spelling mistake you encounter, but misspell the word 'imbecile' in your follow up flames.

Ask Austrian readers about kangaroos. Ask Australian readers about alpose skiing.
 Make an approximous post that accuses others of cowardice.

Sketches such as this



Some people just can't draw a straight line. But SketchRight from Saltire Software in

Between Ore., takes care of that problem. It uses a smart "promotity cogine" that recognize the linea, care and circle in a rough schetch and "maps them that one properties of the property of the correct measurment for the properties of the properties of the properties of the control of personnel — such as architect, estimates, inspectors, space planears, police, against and employee—who was a brook properties and properties. The programs works best with Licia's handful distance meter, which uses a laser beaut to take on when ensurements.

Posthouse magazine issued a press release that said recent audits show its World Wide Web site gets thousands of visits each day from amployee browsers at IBM, Apple, AT&T, NASA and Hewlett-Packard.

A Macintosh wood processing package, Nisus Writer, will let a user "undo" the last 32,767 things done. The New York Times reports.

Computer Aided Victim Identification, from CAV-ID Development Corp. in Na w York, is a PC program that matches deatal records to help coroners identify disaster victims.

Preliminary results of an on-line survey show that 17% of 185 respondents exhibit signs of, Internet addiction," which is similar to compulsive gambling. The results are at bttp://www.ccsnet.com/posp/patph.html.

W Send contributions of officest news, lists and anecdotes to mbetts@cw.com.
COMPUTERWORLD APRIL 15, 1996 (http://www.computerworld.com)



A single-minded idea times 5,418.

Above all else, the Unisys Travel Partner Pro is one high-performance notebook computer.

But what can really expand your consciousnass is how it lets you do so much in so many different ways. It's almost incalculable.

PCMCIA slots let you whip in hundreds of Type II or III cards. The first accessory pentium bay lets you swap your choice of hard

drives. The next bay lets you change from a diskette drive to a quad-speed CD drive for multimedia. And another bay accepts different batteries or an AC adapter.

There's mora. With this notebook's desktop

docking station, you can plug into your choice of monitors, LAN connections and even three additional peripheral bays.

Mathematically, this gives you 5,418' reasons why the Travel Partner Pro is the one single system you need. And that's a number nobody can

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120MHz Pentium processor s Up to 40MB RAM = Up to
129B herd drive = 16-bit sudio, built-in speaker and
microphone = 22-bit PCI video = 10.4" SVQA displet (800
x 600) = NIMM and Li-lon batteries = 3-year werranty
s Supports Windows 35, Windows NT,™ 05/2" Werp

http://www.unisys.com/adv or 1-809-874-8647, ext. 242

UNISYS

Baan does it your way

Automatic configuration tools build unique applications

By Iolia King

and-comer Baan Co. will leapfrog the competition next week when it announces tools that autotically configure enterprise software to a customer's unique

way ol doing business. The company confirmed that the new version of its Triton software - renamed Bans 4.0 - also includes a graphical user interface and a project management

application aimed at ufacturers of complex, one-of-akind products such as a nuclear powe

But from all indications, it is Baan's new set of automatic configuration tools, called Orgware, that recomine to steal the show at pext week's user conference in Orlando, Fla.

Manufacturing

If the tools work as well in the cal world as they did in demon strations. Orgware could cut system configuration times by up to 50%, users and analysts said. "Orgware allows you to separate the business processes nut from the software product," said Hal Kaiser, an independent contractor at Nortel, Inc., a Basn site

"In earlier releases, you had to fip all of these toggle switches in the software, which required someone with intensive software knowledge," Kaiser said.

What's nice about Orgware is I don't have to hire that expertise anymore," he added. Another Bean

user, John Jendricks, chief information officer at minorem les in

San Jose, Calif., said Orgware was par of the main reasons his company bought Baan software over SAP's R/3 entermise system. Bean and Orgware will allow us to change the fastest with the least amount of time, people and

effort," Jendricks said. Essentially a modeling tool. Oversorie lets nontechnology users lay out a set of business processes in Bean software. It then automatically configures itself to

The Potomac Group, which

ovides medical insurance verifi-

cation services to hospitals and

physicians in 22 states, uses DEC-

messageQ to route eligibility data

among programs on a network of

four servers and 10 front-end box-

DECraessageO has been available longer, but IBM recently laid

out plans to link MQSeries to

Notes, the Internet and SAP AG's

By contrast, DECmessageQ

has been "underground," said Sai

dish Group International, Inc. in

DECmessageQ is considered

ow-oriented approach, Cusack

said. But MQSeries has more

laster because it uses a bus archi

tecture: MQSeries takes a work

ly Cusack, an analyst at The Stan-

R/3 client/server software.

Dennis, Mass

es that run Windows NT

Baan 'is helping people deal with the whole problem of configuration and documentation of business processes," said Chris Jones, an analyst at Gartner Group, Inc. in Stamford, Conn.

First of its kind In the absence of automatic configuration tools, all enterprise software users "have had to bounce their way through the arcane way a product is architected, rather than concentrating on their busi-

pess," he said. Rase is the first wender to resolve that issue, Jones said in the next year or so, analysts said they expect several other vendors, notably SAP AG, to come

out with similar configuration tools. But for now, Basn definitely has a immoon the competition Right now, SAP is at least a year from being able to do the

same thing, which is another reason we think Baan's upcoming anment is pretty significant, said lack Maynard, an analyst at Aberdeen Group, Inc. in Boston.

de revenue for

rise application to-

enterprise messaging

Will use virtual LANS the end of 1997 n't adopt the

IBM, Bay and 3Com join to draw virtual LAN plan By Bob Wallace

IBM. Bay Networks, Inc. and 3Com Corp. will develop a unified plan for virtual LANs (VLAN), a we that could bring users the

heavily hyped technology much earlier than expected, Computer-Dubbed Trio, the initiative will

shoot for a common scheme for supporting VLANs, which let users create logical LANs. Analysts said the Trio st

rould produce a de facto industry VLAN standard, possibly this year, whereas a VLAN specification backed by Cisco Systems, Inc. may not be ban

til at least mid-1997 If Trio is nailed down thin year, products could begin to flow early next wear in a recent user survey re than half the responde said they plan to deploy VLANs by the end of 1997 (see chart). But

that was before Trio. ing these three heavy hitte working together on VLANs makes me much more conf that we'll see interment oper and will serve as as in tus to get users involved in de-

og VLANs," said Bill Horst chief of the General Services Adbranch in Philadelphia, which is a large Bay cu Concerns about interopers ty have many users worried, though it sounds like that issue may disappear for Trio, VLANs

can make life easier for us," he VLAN technology was designed to enable information systems managers to automate the creation of workgroups, eliminat-ing the need to physically move and recable stations. A drag-and-

ment package would allow IS agers to perform me and changes automatically. For example, an IS ma could create one VLAN for finance, one for engineering and

one for manufacturing. And a user could participate in many VLANs. if needed. logether at last

Other users are excited about the alliance, as well. "This would be ereat because you'd have the ma jor players on the same playing field, which would make for less headaches through a bett mixed vendor environment," said Tom Balzarini, enterprise network manager at Associated Grocers, Inc. in Seattle, which uses

Bay, 3Com and Cisco equipment.
"We've looked at what Cisco
has been doing, but we have a
broader mix of vendors and need to have everything tied together, After deciding on a co

and interoperable VLAN approach. Trio will address network management issues, sources said. One said, "Deciding on a manage ent strategy and direction is crit ical since you can't do much with VLANa if you can't configure and age them."

Horst screed, "With an adapt ensider of 3Com's stature in this alliance, it sounds as if Trio would enable users to manage VLANa down from the backbone and kgroup switches to the net work interface card. That's excel lest reach."

Trio will be formally as nounced in 30 to 60 days.

(3) 1864 and Tivell give systems

DEC touts messaging middleware Ry Craig Stedman

In danger of being steamrolled by IBM in the messaging middle-ware market, Digital Equipment Corp. this week will try to raise the profile of its almost-secret essageQ product.

Digital is introducing a version of DECroessageQ that includes an add-on mainframe client and optional bridging software that can pass data between DECmes-sageQ and MQSeries middleware from rival IBM

The advent of Version 3.2 also marks the beginning of a more overt marketing push for DEC-messageQ. Digital officials said. The product has been mostly hidden from public view over the past year, while IBM has been flogging MQSeries for all it's worth.

Messaging middleware lets apolications exchange data via asynonous connections and storeand-forward queues.

geQ customers said they have noticed the silence from Digital. messageQ like they've marketed their Alpha hardware," said Cole Young, director of systems and development at The Potomac Group, Inc. in Nashville.

of asynchronous messaging The Potomac Group has no Even committed DECmes replaints about DECreessageQ on the speed front, Young said. Farlier this month, when three of "They haven't marketed DEC

the company's four Alpha-based servers crashed simultaneously. the verification system "didn't even breathe heavy," he said. Meanwhile, Version 3.2 is sup used to have a friendlier user in-

COMPUTERWORLD APRIL 15, 1996 (ME)//www.com

mainframes as DECmessageQ transaction processing features, servers, said Glen Mackn, Digishe said. "It's sort of the Cadilloc tal's worldwide business manager for the product. Users doing mainframe-based messaging are likely to use MQSeries, he conceded. But Digital hopes the MVS client will position DEC messageQ for connecting mainframes to distributed petworks.

Source the Souther Song International, Inc., Service, Mari.

erface for administering and con-

feuring middleware. Young mid-

There are no plans to supp

Version 3.2 is available oow; development licenses range from \$558 to \$12,955.

Oracle7 Parallel Server: Still Unparalleled.

Key Features	Oracle7	Sybase 50 50
A Processing Strategy		
Processing Slidesh		
Clusters)		
Query Software		
Index Software		
1 Recovery Software		
ms Supported with	20+	None

Sybase may have changed the name of their database, but they didn't change its "parallel nothing" architecture. Oracle?'s parallel everything database architecture makes open system computers fastet and more reliable than mainframes. Call Oracle for the software, 1-800-633-1071, ext. 8110. Call Sybase for the slideshow, but please, call one at a time.



Compaq powers up push for portables lead

Compag Computer Corp., hoping to regain its position at the head of the portables pack, plans a major release of new low-end notebooks and ultraportables in time for PC

Expo in June. But stiff competition will come from several sides. For examp rmonk, N.Y.-based IBM PC Co. in June will resease ultrathin note oks and laptops that cost less than \$2,000, according to sources

close to the company. Smaller makers such as Texas Instruments, Inc. in Dallas are plotting to steal sales from No. 2 Compaq and the clear notebook leader. Toshiba America Information Systems, Inc. in Irvine, Calif.

June and PC Expo is just going to

be amazing," said William Ablondi, an analyst at Giga Informatic Group in Cambridge, Mass, "All the vendors will have uttrathin, ultralight notebooks, and that • soo-MHz Pentium

8M bytes of memory, expandable to 40M bytes

 SuaM bytes of removal hard disk Modular floopy drive bettery and CD-ROM

narket is expected to take off." "Compaq is going to try to restate their capabilities and maintwo their position as a top-tier wesdor with their releases," be said.

Industry analysts said Compaq in Houston plans to release the following LTE notebooks in June: a high-end notebook with a 133-MHz chip and a 12.1-in. screen. which will cost about \$5,000; an ultraportable with a 100- or 120-MHz chip and an 11.8-in. screen

which will cost about \$2,500; and

a notebook with a 90-MHz chip.

Features of Ti's Extensa 570CD:

which will cost less than \$2,000. Buyers soon will be able to choose from a cornucopia of relatively inexpensive notebooks with high-end features, including chip speeds of 100 MHz or more The lighter models will join the already-released HiNote Ultra II from Digital Equipment Corp. in

Users said they eagerly await the lighter and less-expensive potebooks.

Maynard, Mass.

"Some of these notebooks get besey as you run through air-

network manager at Center Group, Inc. in Dallas and an IBM Think Pad user Til be interested to try out the

lighter models. And, of course, the cheaper the better," he said. Rival in sight The 100-MHz chip is pretty

much standard now on midrange and even low-end noirboo said Ray Topes, a senior product market

ing manager at TL The company has firmly stated its sim to knock Tookil from its spot at No. I within a couple of

In the meantitue Towes said TI believes it has the right products and pricing to pick off Compaq Analysis said TI has gained market

oup. Inc. predic

share and mind share in the past year, but it still has its work cut out in chasing the market leaders. "Texas instruments has always had great products, but they have had trouble with marketing," said

Andrew Seybold, editor of the Outlook on Communications and Computing" newsletter in Boulder Creek, Colo. "And Compag is planning to re-

ase notebooks with everything for everyone," he min TI this week will

release a midrange of Exten 570CD and 570CDT They will cost beeen \$2,999 and

Motorola has updated its Envoy personal digital assistant. But, does amone care? See

Internet products to invade DB/Expo

111

and Juan Carlos Perez

Middleware, data warehousing and the Internet will dominate DR/Expo '96, tomorrow through Friday at the Moscone Center in San Francisco Survesh Mathor, a develop-

ment manager at Virtual Integration Technologies, Inc. in Cupertino, Calif., will be among the estimated 35,000 attendees. Like many of his colleagues, he will look for a range of products. "especially development environments for creating applications for the Internet or intranets," Mathur said last week

We're still hand-coding without a femphical user interface) or a debugger, because the market has been slow to evolve. Now, a lot of Internet products are emerging," be said.

Products for Web One such product. Soon Web 2.0 from Bluestone, Inc. in Mount Laurel, N.J., will be previewed at DB/Expo. It features support for Microsoft Corp.'s Database Connectivity (ODBC) and OLE 2.0 application programming interfaces (API).

Several other Internet-related products also will be announced at the show, which is the preIssaquah, Wash-based Raims

Corp., will announce Velocis Web-Server Gateway, which provides a shrink wrapped Common Gateway Interface (CGI) link between Hypertext Markup Language servers and the Velocis Database Server. The gateway will cost CODE the database narrow Sate for \$1,995 for eight overs.

Arbor Software Corp. in Sun nyvale. Colif., will announce Embase Web Gateway, a \$10,000 connection that will let Internet visitors perform on-line ana vtical processing from Web howsers via the Fushese database man

ment system. Bargain-huoting World Wide Web site operators may want to map up a free copy of Tecumseh Scout, a Web search engine from start-up Tippecanoe Systems, Inc. in Pleasanton, Calif. Tecum seh helps create a searchable in dex of up to 4,000 documents by reading and indexing every word

in the documents. It lets Web browsers search the index through a CGI program. Tippecanoe officials said they hope the free publicity will lead to colon of the fem's hessionduty products: the banner "Search re-

solts receided by Tecumush" anpears each time the product is used, unless the Web site operator shuts it off. In the realm of middleware, which plues readors' clients to

other wendors' servers or database management systems, Sybase, Inc. in Emeryville, Calif., will accounter Version 2.0 of Enterprise Connect. It will supand multiple profession develop. ment said Karre Parker, a

marketing director at Sy-Trilory Technol-

loc in City of In-DR FIPO 96 dustry. Cslif., will announce its Open Path Remote Data Ac cres ODBC driver, Company officials said the product costs \$850 and uses a single driver to let developers connect Windows and Unix front ends with a variety of relational database management

> Also set for introduction is Version 2.2 of Platinum Technolory. Inc.'s InfoPump data-replication tool. The tool will \$35,000, it will support Lotus Notes 10 and will our under Son's SPARC Solaris and Hewlett-Packard's HP-UX, Version 2.0 of Info-Hub. a \$55,000 piece of middle ware that lets RDBMS users query nonrelational data, now

supports IBM's Distributed Rela tional Database Architecture API and no longer requires the use of vbase gatewarn

Software AG in Reston, Va. will address an increasingly hol area, data marts. The compawill announce Dmart, which combines its Esperant query tool, the Adabas D RDBMS and consulting and educational services to deliv er a data mart in four to six weeks. h will cost \$25,000. Data marts are collections of data about single topics or single products, usoally implemented by midlevel per-

Information Discovery, Inc. in Los Angeles, will announce the unusual Map-Discovery System, which claims to bring data mining to mapping software. Users could discover unsuspected geograp sotterns. For example, if the inputs are a database of warranty claims for a given make and mod el car and a database of west for the past five years. Map Discovery System will generate may that show significant correla such as which parts need replace meet most often in areas that receive the most snow. Map Discov ery System will cost \$1,900 for Windows and \$25,000 for Unix.

Easing the royal pain of link-ine databases to the Web. See name 75.

Rivals target net security

In an effort to consolidate comp ing standards, Microsoft Corp. and Internet rival Netscape Communications Corp. plan to develop a single, full-featured security protocol for 'net communications.

By Gary H. Anthes

Microsoft last week submitted a draft specification for an encryp tion protocol to the Internet Engipeering Task Force: Called Secure Transport Layer Protocol, it would combine the security features in Microsoft's Private Com munications Technology 2.0 with the widely used Secure Sockets Layer (SSL) 3.0 featured in Net scape's Navigator browser. The result would be a more ro

bust and scalable SSL-compatible standard that provides better security, Microsoft officials said It's meant to be widely used for user authentication and privacy in commercial applications, such as those that transmit electronic mail or credit-card information. Users said the Microsoft/ Netscape effort will help simplify

Internet commerce. There are quite a few standards out there and it would be nice to have just one or two to deal with," said Carl Tianen, manager of research and development at Ameritech Securi-ty Services in Southfield, Mich.

COMPUTERWORLD APRIL 15, 1996 Dispi/www.computerworld.com)

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Transforming Enterprise Systems MICRO FOCUS'

OLAP software products deliver smoother sailing

Pilot Software promises to make quick work of bulky data

ment systems are useful tools for drilling through layers of com-

Nex, detailed data. But that high degree of detail comes at a price: time-consuming behindthe-scenes work Add to that anoth-Database

downside: The abase that results from all that work can end up far larger

than the data from which it is derived. That creates storage prob-

Enter Plot Software, Inc., which today will announce a family of on-line analytical proce (OLAP) client/server products Pilot claims this software will let users load data faster - and creste multidimensional databases faster and in less space - than earlier versions of its product.

Called Pilot Decision Support Suite. Version 5, the five-piece package (see chart) uses new alenrithms to reduce the time need ed to load and process data so end users can access it, said John Fleming. Pilot's vice president of marketing. In-house unaudited benchmark tests showed time

servings of 50% to 500%, he said. One early user agreed that time savings are clearly a benefit of the new ver-"I'sing Version 5.

loading the OLAP database takes three hours. It used to take five hours," said bets user Bob Morris, a corporate manager at beavy-equipment manufactures Ingersoll-Rand, Inc. in Woodcliff

Inke N I He said many files in the company's 4G-byte Pilot database. which is used to track sales, are 20% to 30% smaller when aggre-

gated under Version 5. Howard Dresdoer, a senior anahist at Garteer Group, Inc. in Boston, said improvements in the quality of Version 5 "make it a more worthy competitor" to other analytical software competitors such as Express from Oracle Corp. in Redwood Shores, Calif.: Holos from Holistic Systems, Inc. in Edison, N.I.; and Accumate from Kenan Technologies in Cambridge Moss

"Collecting data is great, Learning from it is another matter, and that's coming to matter more and re to companies. Software like this is what provides understand ing so it's wey hot." Dreedner

Also new in Version 5 is the ability to group selected items. such as products, to examine only the data relevant to them. Morris said as Inercroil product manager can now easily review sales of pneumatic hand tools without having to also sift through sales figures for air compressors and

Fartier versions of Pilot required more effort to segregate

door hardware.

Inside Pilot De	cision Support Suite Version 5
Pronuct	Function
Deskitep	On-line analytical processing through built-in, single-user multidimensional DBMS
Analysis Server	Multiuser version of multidimensional DBMS
Designer	Designs, creates and debugs databases and applications
Analysis Library	Forecasts and performs analytical functions
Excel Add-In	Lets Microsoft's Excel access Pilot databases

sets of sales figures by product, he noted. Cooperative application

The new version is more open Support for Microsoft Corp.'s Open Database Connectivity (ODBC) application program ming interface means any ODBC compliant tool can be used with ecision Support Suite Also, support for Microsoff's OLF 2.0 means any of the hundreds of analytical, World Wide Web browser or graphics comp nents can be integrated with Pilot applications, Fleming said.

plus its speed and smaller size, at-vances the ball considerably' in the multidimensional database market, said Donald A. DePalma a senior analyst at Forrester Research, inc. in Cambridge, Mass. Pilot Decision Support Suite Version 5. lists for \$30,000 for five users. Its server component runs on machines running Unix and Microsoff's Windows NT. Its client portion runs under Win-

dows 3.1, Windows 95 and Win dows NT. OLAP drives several interm

The product's "new openness. projects. See page 81.

News Shorts

Microsoft axes CompuServe forums

Microsoft Corp. plans to discontinue its own technical support forums on CompuServe in favor of Usenet newsgroups. The groups, which will be activated today, will be free, the company said. April 20 is the last day for Microsoft-sponsored CompuServe forums. Comp Serve, Inc. pl uns to offer some Microsoft forums, but after April 20, Microsoft won't run them. Users can access the new newsgroups at http://www.microsoft.com/support/.

Two firms dump NetView

Two companies have defected from the IBM camp when it comes to products that manage their complex SNA networks and MVS systems operations. Both Elecsize Corp. and Lockheed Martin Corp. switched from IBM's NetView for MVS to Solve:Netmaster from Dallasbased Sterling Software, Inc. to save money and gain new capabilities, officials from each company said last week.

Sybase suffers \$6.9M loss

As expected (CW, April 8], Sybase, Inc. last week posted a net loss of \$6.9 million. or 9 cents per share, for the quarter ended March 31. The relational database management system vendor generated revenue of \$243.7 million for the quarter. up 13% over the same quarter last year. With the elevation of Mitchell Kertzman to executive vice president of sales and marketing and the ouster of Chief Operating Officer Dave Peterschmdit, 'the stage

uive sales and man keting," said CEO Mark B. Hoffman. SGI's 3-D Web standard wins

Silicon Graphics, Inc.'s Moving Worlds technology was formally adopted as the specification for Version 2.0 of the Virtual Braity Modeling Lange (VRML) by the multivendor VPMI Architecture Grown First de veloped by SGI, VRML is a standard for

creating three-dimensional applications on the World Wide Web. VRML 2.0 elimi nates the static limitations of the first ver sion of the specification by allowing the addition of animation, sound and other interactive features

Wang buys 'Dataserv-ke'

Wang Laboratories, Inc. will acqu BellSouth Corp.'s Datasery service company, Billerica, Mass-based Wang will pay \$30 million for the Minneapolis pany, which posted nearly \$100 mil-

lion in revenue last year Symantec upgrades com

Symantec Corp. in Cupertino, Calif., last week upgraded its C++ compiler for Apple Computer, Inc.'s Power Macintosh to support Java, Sun Microsystems, Inc.'s Internet development language. The new presion, which is available now and costs \$399, includes a Java compiler and win dowed development environment, along with support for developing in C++ and

Unisys readies open server Unisys Corp. is scheduled to unveil to day its ClearPath family of enterprise

servers, which are mainframes that can rus other ope systems. first of the

servers will

be available this mouth with others following in May and June, the company said. The systems can run both mainframe operating systems and Unix or Windows NT, according to

the Blue Bell, Pa., company Collabra upgrade ships Mountain View, Calif.-based Net munications Corp. shipped so up

grade to its Colisbra Share groupware product last week. New in Release 2.2 is a replication feature that lets mobile users work with files off-line, then update them

when a network connection is available. Share 22 is free to Collabra users and costs \$49-per seat for ocw users.

BM cuts PC server prices IBM cut prices last week on both its PC Server 520 and 720 lines by up to 12%. The cuts follow price re-

ctions of up to 24% made earlier this month on its PC Server 320 lines. IBM cut prices on a PC

Server 520 powered by a 100-MHz Pentium from \$7,380 to \$6.45 A PC Server 720 powered by a 100-MHz Pentium processor west from \$12,499 to \$11,269

SHORT TAKES Hayes Micro Products, Inc. is emerging from Chap-ter 11 bankruptcy. The modern maker said a variety of investors plan to acquire a 49% stake in the company. Chairman Dennis Hayes and an employee stock plan will retain 51% ... Mastercard International, Inc. awarded AT&T Soione a multimilion-dellar contract to ign, build and support a new global

ransaction processing network to sup-ort its global business activities. . . . nat Plains Software in Fargo, N.D., this week will begin shipping Dynamics C/S, its suite of 32-bit client/server finan cial applications for Microsod's BackOffice environments. Pricing for an eight oser software license is \$75,000.

PeopleSoft and Sybase

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Fast Ethernet brings broadband to the desktop

By Bob Walkace

Users who are tired of bearing about emerging network technologies that are too costly or immature for them to use are turning to tried-and-true Fast Ethernet technology. Fast Ethernet offers 10 times

the bandwidth of regular Ethernet.

The testfold boost in client/server performance is achieved with a 100M bit/sec.
Fast Ethernet hab and a Fast Ethernet adapter for each server behind the but.
This less network immagers its workgroup The Fast Ethernet hubs and adapters cost 20% to 50% more than 10M bit/sec. models. But they also give users a relatively inexpensive way to hedge their bets against future technologies — such as Asynchronous Transfer Mode (ATM) — without precluding them.

"We had a network with 200 nodes, and we had some real bottlenecks on some of the four LAN segments," recalled Mark Maxwell, who president of global systems management at Fuji Cupital Markets Corp. in New York. "We thought about ATM a little, but it in ready for prisue time yet.



Besides, we like to stay away from technology revolutions and stick with technology

evolutions."

Maxwell installed a Cisco Systems, Inc.
Catalyst 5000 switch, which provides 100M
bit/sec. pipes to the company's heavily

used network file servers.

CDI CAD Services in Tempe, Ariz., is testing a Fast Ethernet switch to give users

testing a rust externet switch to give users better access to computer-aided design (CAD) applications on a file server. "We had a bunch of [regular] Ethernet hubs, and since our company has grown

from almost nothing to 60 seats, we started seeing slower response times and lots of collisions," said Jim Musso, the firm's system administrator. Fast Diher act is widely used in backbone

Fast Ethernet is widely used in backbone networks, but users and analysts agreed that it is picking up steam as a LAN technology, too.

That means running 100M bit/sec, pipes — not 10M bit/sec, switched Ethernet pipes — to each desktop and installing devices called "10/100 adapters" that can run at either speed.

"That would be really cheap to do, especially since the 10/100 adapters you would need for each deaktop computer only cost a little more than the 10M bit ones available today." Maxwell said.

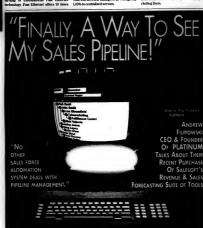
New Claco products
As expected, Cisco last week formally an

As expected, Cisco last week, formally announced a range of Past Ethernet products, including switches and router interfaces. The interfaces let users link Fast Ethernet islands. The Past Ethernet products include the following:

The 14-port Catalyst 2900, a 10/100M bit/sec. switch with pricing starting at \$15,000. The EtherSwitch 2200, a 14-port 10/ 100M bit/sec. desktop switch.

A \$9.995 10/100M bit/sec. module for its topend Catalyst 5000 switching bub. The wares will ship in July:

Clace adds internet security to its routers. See page 78



People have wordered how PANNAM or detailing on integrated of our product of lines and expect-wide hows. For w, the product part is early. Or produce not be company into I had be a produced on the various sales organizational Thanks to Schoolsh Replant Mercognimin's software, that's no tradity, where. No other software that's no tradity, where. No other software, that's no tradity, where. No other software, that's no tradity, where. No other software, that is no contracting system and so with pipeline more

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Objective perspective

Lack of tools, tough scalability top users' list of object concerns

CAMBBIDGE MASS

ect-oriented technology reourses some serious care and feeding to live up to its promises.

ers warned at a conference For one thing, objects aren't

For another, all the tools to manage object-oriented technol-

ogy aren't swallle, so users must act as systems integrators for what is offthe-shelf - or

create their own tools Lots of development discipline and high-level commitment are received to create systems that won't become their own generation of legacy headaches. These are among the observations of north who have been there and done that - that is,

nted object-orien applications of one stripe or an-There out comments at the Best Practices in Distributed Computing conference sponsored by Patricia Ser-

The idea of upper man ement was brought home by Matthew Meisel, executive ditor of information technology at SBC Warburg, a division of Swiss Bank Corp.

Meinel, who is based in London, said the bank's standards body is made op of the chief operng officer, the chief information officers of both major divisions and another senior

Object-oriented technology level executive Ther's extend. ed the idea of objects very deep into the bank," he said "Our new ClO is an object designer

Meinel knows whereof be peaks. "We have lots of legacy lobiect-oriented) systems in the bank, I manage one with 4 million lines of C++ code." Blayne Maring, assistant vice

president of technology specifications at GTE Telephone in Irving. Texas, is another veteran, "We pulled the plug oo a very large. distributed client/server system that wasn't quite fully objectoriented, he said. The company ran into problems because it in-

stalled the client/server system by "surrounding" the legacy system it was meant to replace common approach to new straterms implementation

But the data in the legacy sysem was "very dirty." In other words the old application's data was all a sumble and nearly imposable to make sense of with first going in and detanging it. Data hygiene is very important. Maring said.

Another issue, some attendees said, is that object technology isn't pecessarily easy to scale. But that may be because to one guite knows how to do it, said

Mitch Kramer, a Sevbold analyst. "It's early point" for objectoriented deployment, he said. People have gotten 10, 20 or 30 transactions per second" from object-oriented technology, but oobody knows if performance in the hundreds of transactions per secand range is double

One problem nearly everyone agreed on was that of reuse. "It takes management discipline and methodology" to get objects that can be used in other applications. Maring said

can select certain Web or Interpet

capabilities to add to in-house

software without having to tack

on an entire full-function browser

Dolberg said. You can keep your

application as efficient and as

QNX Software Systems Ltd. by

dy plans to out parts of Soviclass' Web Technology Toolkit into a

is peddling to makers of low-cost Internet terminals

exactly which functions to put into

the outen because in those

but " mid Court Gillsbourge a table nical manager at QNX in Kanata,

Although Spyglass' primary

And Quarterdeck Corp. plant

customers are other software

firms, IS groups can buy the kit.

to add Spyglass' Hypertext Mark-

up Language module, among oth-

er pieces, to its desktop applica

tions by this summer, said

in Marina Del Rev Calif

Emerick Woods, vice president of

ernet products at Quarterdeck

"We want to be able to choose

small as possible," he said.

Slow and steady wins distributed computing race

CAMBBIOCE MASS

Some large companies trying to restore order to chaotic comp ing environments are finding that the fine art of come necessary port of their arsenal. Global directories and security

services may have to be put off, according to several users atter ing a conference on distril computing here last week. And reining in information sys sprawl can be such a large task that only some basics are feasible at first, they said.

"We're just putting in place things that are so rudimentary," said Aft Kapoor, manager of intra structure architecture at Allied-Segnal Inc. in Morristown, N.J. Right now, anything beyond that would be like building the Taj Mahal on sand and waiting for it

Step at a time

AlliedNigmal in Japuary began an 18-mooth project to impose standards on technology and IS procedures across its North American operations. The GlobalLink project, which is budgeted at about \$100 million, will then be expanded overseas, according to matica customs managers

GlobalLink is expected to be a precursor to a future distributed architecture that may include technology such as object requ brokers, remote procedure calls

and directory and security services. "We can't even think of that to

day, at least enterprise wide Kappor said, First, the \$14 billion real-time operating system that it acrospace company has to quell the "anarchy" of its IS environment, he said. "Every site and every (business unit) was a separate entity before and was encou seed to do its own thing kinds of machines, you can't fit a Other users at the conference.

which was sponsored by Patricia Seybold Group in Boston, told similar tales of walking before they could run

There are a series of compromises" that have to be faced, said Warren Bernard, senior mans of retail systems development at MCI Communications Corp. in

MCTa Mass Marketa us which handles small business and residential customers for the long-distance company, began imFoundation's Distributed Computing Environment (DCE) tech nology in the middle of last year. But it "elected to posts sevitable" by leaving DCE's directory and security services until a later phase, Bernard said

DCE also isn't being integrated with its mainframes yet. also is making do with "a po man's version" of directory and

- SERVICE: Allows desktop clients to transparently access data on servi
- GLOBAL SECURITY SERVICE: Provides functions, including single
- los-in to multiple Messaging importment Lets applications unicate and exchange data via
- and ourses. from clients to servers and waits for mun
- Outter anguest and Manages and routes

security services in its h grown, message-based architecture, said Wing Lee, a senior software engineer at Sprint's Rusiness & Technology Architecture department in frving

"You can't do 'everything at once or else it will kill you," Lee said. Sprint's basic directory service won't scale to enterprise dimensions, and security provided through data fields that can be used to embed passwords user identifications in

We wanted to cover the basics first, and we decided this would buy uatime." Lee said.

Spyglass browser goes to pieces which is steadily adding new (catures to its Navigator browser.

While Navigator gets fatter and

requires more and more memory.

Spyglass is making its browser

components for devices that don't

Analystian developers, for ex-

male, can pick and choose which

nieces to embed in their own

products, said Stan Dolberg, an

analyst at Forrester Research,

have much space to space.

Inc. in Cambridge, Mass.

Ry Kim S. Nash

Spygfass, Inc. will curve its World Wide Web browser into small pieces that can be plunked in to other software, such as help desk applications, PC connectivity packages and real-time operating The move to go piecemeal, due

to be announced today, is 180 degrees from the direction of rival tricape Communications Corp.,

Piecemeal approach

Spyglass split its browser into more than two dozen modules that can be plugged in to other software or applications. Here is a sampling

- mage and audio support
- Jeva, JaveScript and Visual Basic Script support
- Support for Gopher, Net News Transport Protocol, Hypertext Transport Protocol and other Internet services
- don, authoritization and on-line payment security
- International language supr
- se \$25,000 for the pieces, 1,000 runtime licenses

When BMW decided to hit the open road,

they called us for directions.

Thoroughness and attention to detail are obsessions at BMW. So it's no surprise that they coalusted over 130 applications and all the major handware providers when choosing information technology for their new manufacturing facility in South Carolina. The vinears? Herbeit-Packard and SAP Our team not only delivered a teat, integrated client/server solution based on open systems — we got the system up and running in just four inontie, which is fully consistent with another BMW obsession, high performance.

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SSA leaves some users in the cold

Object apps neglect Unix terminals

Ry Iulia King tem Software Associates, Inc.

(SSA) last week rolled out a mair version of its object-based client/ cturing software for the AS/400 and Unix pint-But the Chicago-based ven

dor's small but emerging base of posics - may be in no big burry to buy it. The main reason is the lack of support for dumb terminals - a mainstay at most manu-

Version 6.0 of SSA's Busine Process Control System (BPCS) neckler contains new configurable order-management function-ality, an apdated graphical user in-terface, century dating and the have to throw out your existing equipment," Durant said, As a reity to run over the internet. Pricing for a 100-user software li-

cense is \$350,000. Yet it is what the software

doesn't offer - namely, the ability to use characterbased terminals under Unix - that has left some overs feel ing stranded. Why they decid

ed to abandon all of us terminal users is mystery." said Mike Durant, director of information services at 890 million Fort Wayne

SSA CEO Roger E. Pleatics Inc. Coverc 'We don't put "What they're sayagunto anybody's ing is. We're now going to move you over to a new product where you

facturer of pool liners has no immediate plans to upgrade to the software he said. Durant said an upgrade would

involve replacing about 120 termi nale with PCs at a cost of about \$3,000 Aberdeen Group Inc. analyst lack Maynard also ques

tioned the wisdom of SSA's more away from terminal um port for Unix users Many of SSA's bread and butter customers - pri marily midsize indestrial firms - just

acres's ready to more to all PCa, he said. Riz Shakir, SSA's vice president "The challenge SSA has is that of architecture and technology. they made this great leap between "But you can mix and match tergreen-screen and object-oriented minals and PCs, which was the

Other examples, also to be dis

cussed at Common, reflect IBM's

move to add functions to the Cli-

The company has posted a beta

as \$100 (but com). This summer.

IBM is due to release more net-

working functions for clients to di-

rectly access the AS/400 through

TCP/IP and Novell. Inc.'s IPX.

tworking protocols such as

This would eliminate the need

to have a separate network server

for clients besides the AS/400.

said David Peterson, president of

Midrange Open Business Strate-

gies, Inc., a consultancy in Roch-

Larry Overstreet, systems en ineer at Dayspring Greeting

Cards in Silvam Springs, Ark.

said the client networking canabil

ities IBM has planned could help

his IS shop, which uses Novell'a

Without this capability, "you

need to have extra components in

your environment, to connect PCs

at the client to the AS/400 at the

host. My assumption here is that

ester Minn

NetWare.

nal support only to AS/400 users. was "a pragmatic decision," said CEO Roper E. Cowey. For Unix usdown to earth on the intertechnologies," Maynard said. ers who choose not to migrate to "It's a concern that their exi Version 6.0, Covey said SSA will continue to support old releases of the software "basically forever." ing customers and the hardware

they have isn't capable of existing with this new technology." he body's head " he said Meanwhile, SSA's traditional In the last year and a half, SSA customer base ~ some 7,500 comple-

has plunged head long into object tech-Client/server nology mostly beof mixed terminal and PC environ

Sexibility that reusfigurable software ob iects offer, Covey said. For example, under BPCS' new bject-based integrated supply chain feature, a company could

The decision to furnish termi

We don't put a pun to any-

the

quickly and easily set up and change credit terms and shipping ngements for thousands of in usl trading partners The new supply-chain caos ties are based on technology from Dallas-based 12 Technologies. Inc. a strategic purtoer of SSA

Text-based AS/400 goes GUI

Ry Michael Goldberg

The AS/400 is hip - or at least so cool that systems managers can say "so long" to the text-based green screen if they want. That's because IBM is prep Windows 95-based systems management software for AS/400 users, company officials said. Avail-

shiller will be announced in late Unity software, from the Rochester, Minn. based AS/400 group. will let systems managers point and click their way to tracking the configuration and functions of an

AS/A(V) hosted network Unity is part of a trend; there are other packages that convert AS/400 text-based menus and and lines to graphical user interfaces (GUD, Kevin Corporac. director of competitive marketing at the AS/400 division, said 70% of AS/400 users work with Windows clients. He said IBM is serving their needs by developing this new systems management package for the Windows 95 screen.

which is now familiar to many us-

Change is good

Some information systems staffers welcomed the enhancements. The familiar look and feel of a Windows 95 systems management PC "would probably make things better for my [systems] operators," said David Ferrell, MIS manager at Norwood Promotion

connected to \$5/400 servers version of Client Access for Witdows 95 software at its World

. Unity, AS/400 systems ment software to management software to run on a Windows 95 PC Client Access for daws os Client Access via TCP/IP and Noveli IPX

al Products, Inc. in San Antonio. Unity which will be demonstrated at this week's Common conference in San Francisco, also represents IBM's efforts to make the AS/400 easier to use in an opeo systems environment, ob

writers said. This has been one of those ags that has taken longer than HBMI would have liked, in terms of offering a wide variety of capa bilities through [GUIs]," said

Dave Andrews, managing partner at D. H. Andrews Group. Inc., a ding firm in Cheshire, Cone. "That's been kind of a sore point with the AS/400 [communitel for mite a while

Indeed, IBM has launched a campaign to demonstrate how the 8-year-old AS/400 stacks up arainst computers with Unix or Microsoft Com's Windows NT erating system. IBM officials exid Unity is one such effort. COMPUTERWORLD APRIL 15, 1996 (http://www.computerworld.com)

headaches, he added Sun's 64-bit strategy coses r concerns. See page 49.

market requirement that we saw IRS CONTINUED FROM COVER 1

nies with AS/400s -

have the option to

run BPCS 6.0 in a

PC front end.

ment. The catch is that many of

the newer object-oriented func-

tions, such as configurable neder

management, will run only on a

"That's because you can't rus

sects on a dumb terminal," said

The national program must be popular because the agency re-ceived 100,000 more Tele-File reent Access software suite for PCs turns than it had projected. IRS okesman Don Roberts' said. That might be due in part to the average filing time, which is just Wide Web site (http://www. under 10 minutes with Tele-File, Roberts added.

This consti ocess is the Holy Grail of the tax ore tem. It is expected to cut processing costs and eliminate input errors.

Several parts of the IRS systems over hauf have been sharply criticized by

Congress and the (GAO) ICW. April 11, but the Tele-File system has been a success story, said Dave Attianese, an as-

sistant director at the GAO This is one part lof the tax sys tems modernization project that) we haven't found anything to complain about," Attianene said. "It's the best thing they have and a truly paperiess system

I'd need less drivers at the client However, it works only for peo level and have less complexity in environment." Overstreet ple with relatively simple tax filing said. That means fewer potential needs. Marinos, for examp qualified because he is single with no dependents, has fewer than so W-2 forms and used Form 1040EZ to file his federal topes last wear.

More than 23 million English and Spanish Tele-File packets were mailed out in this first year of the program, Roberts sold

Filers receive a personal ident cation number (PIN) inside the moket, alone with an 800-num to call. The telephone calls go to centers in Memphis or Cir that can handle 1,008 calls at a time. If all those lines are busy, the call is transferred to a backup

office in Ogden, Utah

calls go directly into a Unix-based system, developed by Periphonics Corp. in Bohemia, N.Y., that prompts callers for their Social Security numbers and PINs. Filers enter the dieits on the telephon keypad and the sys tem transmits them across on Ethernet

LAN to the IRS host nputer, a Nile 150 minicomput er from Pyramid Technol Corp., at each call cents

The minicomputer matches this information with an informis Corp. database of taxpayer infortion and prompts the callers for line-by-line wage and tax infor mation from their W-2 wage state ments. The host calculates pro able and adjusted gross income

the tax amount and the refund or balance due. The pystem then asks the called if he wants to actually file. If so the minicompoter stores the tax urn information and gives the caller a confirmation number

sult, the Fort Wayne, Ind., manutechnologies without touching Assembly line

Will Apple/IBM deal give Mac OS more juice?

IBM is negotiating with Apple Com-Inc. to license and resell the Mac OS, but industry watchers said they doubt the deal will do much to broaden the Macintosh

"More supply doesn't equal more demand," said Bill Gurley, an analyst at CS First Boston, an investment banking firm in

New York, Gurley said there is no indication that Apple's plan to more widely license its oper ating system will attract more users. The stock has about 10% of the PC market, according to Dataquest, Inc., a market research firm in Sun Jose, Calif.

The agreement, expected to be o ed by the end of the month, calls for Apple to grant IBM Microelectronics the ability to sublicense the Mac OS to other hardware makers, according to sources close to the Cupertino, Calif., company. Apple officials declined to comment. IBM Microelectronics is the division that manufactures PowerPC chips.

What's the deal? Apple struck a similar deal with Moto

Inc. in February [CW, Feb. 26], but Motorola plans to

make como OS to customen purchase

PowerPC chips, according to a sou briefed on the company's plans. "I don't consider this to be a huge deal Gurley said. "It's more like Wishful thinking. After the way IBM and Apple have mishandled Taligent, Kaleida, Prep and Open-Doc. I think people should be skeptical first

and optimistic second. Pieter Hartsook, editor of the "Hartsook Letter," an industry newsletter in Alameda, Calif. said. "I think this is the most bizar deal I've seen come down the pike in a long time. It's not like IBM is going to build motherboards, like Motorola is doing. All they are doing is saving some system maker the trouble of writing out two invoices one for the PowerPC chips and one for the

He added. "Im not sure it will help sell any Mac systems But the faithful claim that the more sys-

Mac OS.

tems makers that support the Macintosh, the better. "I believe it would help," said Mitch Hollander, a research scientist at the Food and Drug Administration in Billerica, Mass.

which has 100 Macintoshes but is considering a move to Windows NT. "I think it would go a long way toward restoring corporate users' confidence,"

Hollander said. "The more people making Macs, the more it relieves Apple of the burden of being the primary source," said John Papa, a partner at The Carson Group, a financial

more than 100 Macintoshes. orate sites beatily its vested in the Windows platform, having more systems makers deliver Macinto

makes Ettle diff We have already established corporate

standards and have an investment in the PC Windows world," said T. Demetri Vacalis, assistant director of con the epidemiology program office at the Centers for Disease Control and Preven-

The agency has more than 7,500 PCs

"To run out and buy mything else re

res specialized approval from our staneds committee," Vacalis said.

Mac users can run Windows 95 appli rations See mage 46.

environments in balance don't take a dive.

Keeping client/server so your applications se, network and operating system elements to get along

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Distributed management

CONTINUED FROM COVER 1

from our point is too much to manage, which is why operators often use event-correlation en eines and filters to avoid overload. By distributing multiple management servers, they can provide a hierarchy of information being passed along to the next level.

We had to change from a central to a distributed management strategy" to get back in control of the network, said Frank Belland, a senior systems architect at Lockheed Martin Corp.'s enterprise information systems center in Orlando. Fls. "[3t's] cutting your own throat to try watching everything

from a single point." At Lockheed, admi took the risk of running the beta version of HP's new sultware on their production network. They had to keep up with the aerospi try consolidation that doublad the durious they were mostitoring to more than 42,000

"As companies merge, their networks do, too," Belland noted. We quickly outgrew the old HP [OpenView] platform's capabilities, and we'll add more nodes when the acquisition of Loral Corp. goes through."

Lockheed deployed Version 4.1 of HP's OpenView Network Node Manager on numerous servers throughout campus or city domains instead of monitoring the entire network from one server in a central command center. Each server now polls local devices and forwards changes in network states to four regional operations centers. As a result, wide-area no work traffic has dropped, and the database shrunk, Belland said. Yet operators at the four centers can still view reports on routers or servers, for example, anywhere across the WAN. They also can back each other up in case of maintenance or disaster.

At Chrysler Corp., more than five OpenView servers are being deployed in business units to un load the central server that monitors 22,000 nodes on its network.

We expect performance to iumo by at least a factor of four from our tests because senarate servers can poll fewer devices in their domains," said John Baker, a nunications specialist at Chrysler's Auburn Hills, Mich.,

Before this baset version of OpenView. Duke Power Co.-in Charlotte, N.C., struggled to cope with growth by beefing up its central OpenView server with more memory and processors. The firm also had to tune its network

tools to wring out enough performance to support a database of 35,000 objects, said Paul Edmunds, a network analyst at But HP's improvements add

distributed management capabilities that users of Cabietron Spectrum have enjoyed for the past year. Version 3.1 let them link servers in separate domains, and now Version 4.0 will help unity their view of all those servers. For example, the current Spec-

Vendors ease growing pains



trum Versioo 3.1 enabled integratools that KE was looking for tor KF Kommunikations Elektronik GmbH & Co. in Hannover. Germany, to tackle a huge man agement challenge: distributing control of the new telecommu cations network for national carri er Deutsche Telekom.

KE is deploying about 1,000 Spectrum servers throughout 39 areas to monitor more than 1 mil lion subscribers, said Jurgen Joswir. KE project manager.

downloaded to each aser's PC

demand a PC with at least 12M or

16M bytes of memory, said Mi-

chael Brando, an engineering

manager at Perkin-Elmer Corp. in

San Jose, Calif. If most of each ap-

plication can be moved to a Web

server, that memory could be not to a few megabytes, he said.

annication code sitting on their

don't have the burden of a big fat

client," Brando said. "But they

have the full capability, as if they

had installed the application on

The users won't have all the

Other leading network management platforms lacked the distributed canability and customization Web because - will need to be Right now, applications often

when it took on the moderniza tion project last year. Joswig said. KE will adopt Spectrum Version 4.0 to conserve memory and speed ap operation through enhancements such as dynamic model loading, which lets operators narrow their view of network

devices, Joswig said. Another user, with less extensive needs, will distribute Spec trum servers and upgrade to Version 4.0 at the same time to cope with growth.

"Our single Spectrum server is

starting to hyperventilate, and all our management traffic is funneling through one data center, so we'll expand to three servers to monitor regions," said John Scogein, staff technical consultant at Delmarva Power and Light Co. in

Upgrading to Spectrum 4.0 dnring this expansion will give more operators access to management data from cheaper Windows NT consoles and from Web browners. Synnein said

Newark, Del.

Savings for st For the state of Michigan, Spectrum was picked to distribute management among all state agencies as part of a consolidation project. Unifying once separ WANs should save the state \$3

million - nearly four times as much if a single group controls all LANs, said Bryan Ruhf, manager of the state's central network op eration center Another large user, the U.S. Postal Service, is finding that the

data compression in Spectrum 4.0 reduces the size and bandwidth required to distribute reports amoust servers. We were managing the whole

thing from here with three servees for three regions. Now we're distribution further, to 15 router es on our private WAN that can suck in information from the levbelow them," said Dan McPhillips, telecom program manager at the Posta Service data center in Raleigh. NC

ment tools may be down the road. See page 67.

upgrading [applications]," the generates code for the firm's Web preterms analyst said. "This way, server Developers will be able to use the Designer 2000 code to

with Visual Basic or Developer 2000. Or acle in June will add Web-related data types to Developer 2000 and let deve ers embed Oracle's

PowerBrowser Web rowser is Develop er 2000 applications And by 1997, the

Oracle tools will let nsers generate the client or serv er parts of an application in Java

"In the short term, they're tak the burden off the programmer in figuring out how to connect databases to Web pages. In the longer term, they'll actually be producing Java code," Brando said.

Thin clients ablaze

CONTINUED FROM COVER 1

Race for the Web

	Powersoft	Microsoft
Designer 2000, Developer 2000	PowerBnilder	Visual Basic
Ability to generate Web pages and embed browser in applications	Netscape Naviga- tor plug-in to run PowerBuilder ap- plications over the Web; ability to save DataWindows as Web pages	Release Visual Basic Script, a Visual Basic subset for scripting Web pages
Generate	Support	Built-in

support for Visual Rasio

That can cut software and hardware costs for organizations with large client/server installations and tight budgets, said a systems analyst at a major retailer who requested accorymity. "We're running hundreds of cli-

their PC."

we only have to upgrade the servers. The clients are just running link Web pages to databases in apwhatever the best browser of month is." "If we can so \$300 [each] on 2,000 clients that don't lee quire] 8 more mega-

bytes of memory this year, you do a PC, just a Web browser, so they . little onick math and we're suddenly in handreds of thou sands of dollars real ly quickly," he added. "We're bet-

ter off for dollars and cents, along with the harder-to-measure managrability of only having to upgrade a few servers instead of onsands of clients." Hoping to give users the tools they need for those Web-based ap-plications, Oracle this month will

ents in hundreds of locations, and ship a version of its Designer 2000 one of the historic challenges is application modeling tool that

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COMPAQ Has It Changed Your Life Yet?

Lotus seeks bigger taste of suites

By Lisa Picarille

Lotus Development Corp. isn't sour about being a distant second to Microsoft Corp. in the desktop application suite market. attempt to boost its unit market share to

The Cambridge, Mass-based unit of IBM last week outlined several initiatives designed to increase SmartSuite sales. They include a beefed-up advertising budget, a dramatic price cut for the product. h's too busy focusing on an aggressive new bundling deals and a utility designed

to help users of WordPerfect Corp.'s word processor convert to Lotus Word Pro prossor (see chart).

SmartSuite sales account for about 18% of the suites market. Microsoft Office leads the vendor pack with more than 70% of the market, according to Dataquest, Inc., a

market research firm in Son Jose, Calif. "We are trying to reestablish ourself as a rong No. 2 player in the market, said Bill Jones, senior director of applications prod

uct management at Lotus. To that end, Lotus is dropping the price of SmartSuite from \$679 to \$149. Microsoft Office costs \$249 and Corel Corp.'s Word-

Perfect Suite costs \$395. A conversion kit designed to lure Word-Perfect users to Word Pro can be accessed as a new help option under the current Word Pro help menu. It supports the conversion of WordPerfect files to Word Pro format and helps WordPerfect users learn how to do tasks in Word Pro.

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To boost sales of SmartSuite, Lotus has:

ertising budget by 40% ed WordPro conversion kit to fect user

andows and OS/2 vers 79 to \$149 med SmartSuite b

ements with IBM and , lett-Packard

ny officials predict they will reach

8 million users via bundling deals with hardware makers. A trial version of SmartSuite will be bun-

dled with Hewlett-Packard Co.'s DeskJet 600 printers in Europe. Lotus already has ing deals in North America and Cana da with AST Research Corp., Acer America Corp. and Epson America, Inc. IBM buis dies SmartSuite on all Aptivas, ThinkPads and IBM 300 and 700 Series products One industry watcher was skeptical that

these moves would increase market share.

"Low prices and free seeding work best in brand new markets," said Jeff Tarter, editor of "Softletter," an industry newsletter in Watertown, Mass, "Once a corporate standard has been established, rarely is there much impact on market share."

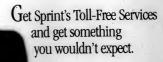
Still 16 bits for 1-2-3

SmartSuite of for Windows 95 began shippi number but still lacks a 12-bit version of Lotus' Ragship 1-2-3 spreads s the Word Pro word processor, a st-bit nion of 1-2-3, the Approach da the ScreenCam molt gs version of 2-2-3 is due later this year. The

Windows 95 applications sold big last

year. See page 53 The TX-O

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EMC to pump data over networks

By Michael Goldberg

Continuing to move beyond its mainframe heritage, EMC Corp. plans to offer a storage system that centralizes network data through a technology that eliminates the need for servers as middlemen, company

executives said last week.

Last year, EMC introduced storage systems for the Unix market, Later this year, the Hapkinton, Mass,-based company will useful Symmetrix storage systems that use a special board with an intel Corp. micro-processor and software designed to act as a

"data pump" for files requested over a net

EMC expects to sell these systems for applications such as anetworksoccusible storage and hackup systems and video on-demand setups, said larsel Gat, wouldn't specify release dates for Symmogeneral manager of the company's network its systems that have the new technology.

torage group.

The company also plans to unveil tech

noingy that will enable both MVS-based mainframes and Unix servers to share each other's data stored on the same Symmetrix system, said James Rothsie, a senior vice novident of marketing at EMC.

Server, which is available now, the firm wouldn't specify release dates for Symmetrix systems that have the new technology. Analysts said EMCs strategy fits the emerging needs of information systems managers who are scratching their heads, wondering how to deal with a hodgepoptie.

of hardware and software products linked to a variety of data stores for PCs, servers and mainframes. But even if EMC Data storage

But even if EMC faifflis its promises, users will be watching carefully to see if the storage ven-

der can provide enough flexibility, said Stan Johnson, director of management information services at Worldport, the port of Los Angeles.

For example, EMC plans to offer

data-sharing technology to MVS and Unix shops first, but Worldport uses an Amdahl Corp, mainframe with IBM's VSE operating system.

Whatever box goes into our shop, if

"Whatever box goes into our stop, it open systems is really going to be a reality, it's got to work with MVS, VSE, Unix, Windows NT — and they've all got to peacefully coexist," Johnson said.

Expansion on the way EMC officials said they plan to expand the data-sharing technology to more operating

systems over time. The company is studying a Windows NT bridge as well as additional mainframe covironments, a spokesman said: This is understandable, said Carl Greis-

er, an analyst at Meta Group, Inc. in Stamford, Conn. Setting up common views of data stored in different formats for different computers in tricky to implement and will evolve over time, he said.

The data-sharing technology could east the work-of users loading to migrate applications from mainframes to Unix systems, said Tom Lahive, an asalyst at International Data Corp. in Pramingham, Mass. It also helps IS shops that are setting up a data warehose application on a Unix servers that can access legacy mainframe data,

he said.

Lahive said EMC's introduction of network-accessible storage systems could provide an important tool for IS shops that seek to centralize the location of various data seek.



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a lew Mongels annul motivation and UNIFACE regional Mon-booting strongware from Jim Rutherford President General Manager, Hartford Whalers



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in truch with a cortain of \$150 poured to be normal of our tier has a delivite to be sometime and to interest directions and more matter that questions and more matter that questions.

Tools help repave the road to groupware

No matter what route they take to upgrade to groupware, users can nt on a variety of tools to make

the transition easier. Lotus Development Corp., Microsoft Corp. and Novell, Inc. all offer migration tools and conversion programs to lure users away from their current messaging

The programs help configure new systems and matemate the trans.

fer of old files and directories into the new architecture "This kind of thing

is expected by enterprise users," said Nina Lytton, president of Open Systems Advisors in Boston. Vendors can't expect users to do the nistrative equiv-

alent of the Jane Forworkout tape when upgrading electronic maill, just to have the

honor of bring their customers." Lotus announced at the recent orld/Interop '96 trade show that by next month it will provide free migration and coexistence tools that allow Microsoft Mail "I can't wait to get my hands on

them," said one user at a health care waterns neuroider, he didn't want his name used. The roughly 200 Mail users at his company who will move to Notes, "dog't want to lose their existing E-mail messages, so a simple conversion utility that will move their Mail

messages into their Notes Mail folders would be perfect." Lotus Notes 4.0 and Microsoft Ex change provide ments that combine

messaging with group discussions. electronic forms and application development. They also are more secure and reliable than grades, including pending books LAN-based messag ing products such CC:Mail and Mail. These haven't

always scaled well in

large enterprise networks and lead to high administrative burdens, analysts said Exchange, which Microsoft unwiled at Networld/Interes ships with tools similar to Lotus' offer-

IRS says he doesn't

expect to move from

CC Mail In Notes

performance optimizer to determine the best storage location for files, a load simulator and a guide to determine how many users to connect to each Exchange server.

depending on the server configu Analysts said a vendor's canni balizing its own messaging base is

just as important as stealing users from other vendors In this area, Microsoft is doing a better job providing a simple up-

grade path for its Mail users than Letter in doing for its CC:Mail us ers, said Tim Sloane, an analyst at Abendeen Group, Inc. in Boston, Cambridge, Mass-based Lotus egan shipping Notes 4.0 in January, but new users have had to wait for tools to simplify the move from their current messaging systems. And delays in CC:Mail up-

into Notes 4.0, have left one user unwilling to make the move to "We won't be going to Notes for mail " said Thomas Bridges net much administrator at the Internal Revenue Service in Austin, Texas. We have too his on investment in CCMail, and Lotus never really delivered on their promised

Notes/CC:Mail interoperability

Novell doesn't want to be left

Upgrade options

out of the loop. For the next 60 NetWare Loadable Modale and a days, the Provo, Utah, firm will of-Microsoft Mail migration utility to fer up to 50 free GroupWise 4.1 Mail users who run Novell's Netclient licenses, a Message Server Ware network operating system.

Council calls for a national summit to shape R&D policy

Fiscal constraints, short-term profits threat to 'seed corn'

global information

technology markets.

federal budgetary

throwing doubts on

vital government

inst week called on industry, government and academia to cethick what it said are outdated approaches to funding research and development in the U.S.

The nonpartisan, Wash haved council said the U.S. information technology industry is risking its long-term competitive ness by feating its seed corn." It cited these tres

· Long-term R&D is being sucrificed on the altar of short-term Overall spending on R&D is de-

creasing in an effort to get products out of the laboratory more

report said. "IIS innovation is · Spending by U.S. companies on at risk," said Gary L R&D is shrinking while overseas Tooker, CEO at Mot-

competitors are boosting their orola, Inc. and co-chairman of the R&D investments. committee that wrote the report. "U.S. preemipence in informa-He said that between 1980 and tion technology R&D is taken for 1985, federal funding for R&D ingranted," the council warned in a creased 6% per year, but since

report titled, "Endless Frontier, then, it has been decreasing 1% DEL ACEL OU SACLES Limited Resources - U.S. R&D Policy Council members stressed that the re-Competitive port is a "framework But 'not only are for action," not a list U.S. companies seri-ously challenged in of specific recom-

mendations. However, it did make these · Hold a national R&D summit to help shape policy. Make the R&D tax credit permanent

and use tax laws to cocourage lope range R&D.

spending on R&D from defense to active role in trying to increase the payback from the nation's civilian programs. \$173 billion R&D budget Asked about federal R&D proernment-sonnsored research. grams under fire

The council also called on high-technology companies to accelerate a trend that began several years ago: establishing R&D partner-

says the panel gener-R&D programs

He cited the semifederal + programs conductor indusample of a partnership that boosted IIS com

Although the report tries to avoid the partisan battle that presently rages over federal support for industry R&D, it clearly supports the Democrats' view that the federal government should play an

ships with universi-

ties, other com

panies and govern

Partnerships are

ol a new concept

and better partner

ships," Tooker said

count thereands of jobs

and CEO of Xeros Corp. and chairm the Council on Competitiveness said, "The panel is generally in favor of these programs Council Presid John N. Yochelson

from Republican Paul

chairman

in their opposition to in any case, "they are support ive of the basic point that we need to leverage our resources more effectively, by government to

A Clinton administration offi cial, who asked not to be named, said of the report. "We are happy to get vindication from a respect ed industrial third party, and you Council on Competitiveness.

COMPUTERWORLD APRIL 15, 1996 Dep//w

Now that

management has decided the

Internet is going

to have

the company

rolling in clover,

you might

have

a few

questions.

"Will I have to explain to management what a Resident Stealthed Evil Empire Virus is and why it brought down the New York office?"

ANTIDOTE

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Nobody else in the corporation has to deal with problems like these. And just try to explain to the V.P. of Sales how the handiwork of some clever virus author got all over her hard drive.

With the idea of avoiding that scenario, we've put together an integrated suite of antivirus products and services you'll find in our Secure Way' family—including the most advanced security measures in industry history, IBM AntiVirus software scans memory, hard disks, floppy drives and network servers for more than 6,800 strains of computer viruses, including polymorphic viruses and other varieties previously thought to be undetectable. The system also provides false alarm elimination and infection verification. It will alert you to suspicious "virus-like" activity anywhere on the network. And it works across multiple client/server operating systems, from Windows" 9S, Windows 31, DOS and OS/2" Warp to Novel NetWare" and Windows NT.

Right now there are clever people out there making newer and smarter viruses at the rate of something like four a day. Fortunately, we've got the world's leading antivirus researchers on our side – a whole lab of men and women whose aim and pleasure in life is to explore now virus techniques and basically try to beat our IBM AntiVirus so that we can make it even stronger for you and your commant.

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For more on our antivirus solutions, visit www.brs.ibm.com/ibmav.html or call I 800 IBM-7080, ext. G 120

"Can a customer pay by credit card without furnishing some hacker's condo in Malibu?"

COMMERCE
of life. But there is something about
cybercrime—the idea of someone pressing a few
buttons and making off with one's digital belongings—
that is particularly frightening. And in fact, commerce on the Net will grow only as fast as confidence
in the security of the Net grows.

Fortunately, our confidence has grown pretty fast over the last couple of years. IBM SecureWay includes a variety of services and products that, over time, will make exchanges across the Internet even more secure than nonelectronic transactions - everything from credit card transactions to super-distribution of copyrighted materiato the transmission of confidential corrorate data. The Secure Electronic Transactions protocol, developed using iXP multiparty payment protocol from IBM Research, allows buyers, sellers and credit card companies to be joined in a single Internet transaction that is secure, confidential and verifiable.

Our Cryptolopes" technology promises to revolutionize online publishing by providing a mechanism for controlling distribution of copyrighted materials. This "encrypted envelope" will let the originators of the material get value for their creations and help them find a new market on the Internet. Of course, your management needs to understand that an organization on the Internet is only as safe as its weakest link. With that in mind, we've developed powerful firevall, encryption and access control technology, not to mention one of the largest private secure business networks in the world—the IBM Global Network.

So, in short, that hacker in Malibu is going to have to find a new way to make a living.

To learn more about IBM SecureWay and our secure transactions technology, visit us at www.ibm.com/security or call 1 800 IBM-7080, ext. C122.

"Will a fancy port scanner algorithm make mincemeat of my firewall?"

On the one hand, the Internet gives your company the opportunity to open its doors to millions of potential customers, partners and contributors. On the other hand, there are all sorts of very clever people out there who would love to infiltrate your system, whether for mischief, for the challenge of it, or for plain old corporate theft.

Fortunately, we've got some hackers of our own. We call them "ethical hackers." These are dedicated masters of the very latest techniques of sniffing, spoofing and cracking. And, working with the IBM Global Security Analysis Lab, they put this knowledge to use to develop better and better security countermeasures.

And, for our clients, the ethical hackers will use all their tricks and techniques to try to breach your network. This is one aspect of IBM's Security Healthcheck – a series of powerful tests and preventive measures that lets us find yeak spots and strengthen defenses before a break-in occurs.

But, because the world is a rough place and the worst can sometimes come to pass, IBM's Emergency Response Service is on call 24 hours a day, seven days a week around the globe to close any breach in your network and repair the damage. The response team makes itself intimately familiar with your network and systems ahead of time, so that, in an emergency, they already know where to go and what to do.

We believe that the networked world can be a very safe place to do business. But that doesn't happen by mistake, it happens by planning ahead.

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Computer Industry

More makers eyeing corporate PC market

By Melissa Bané

In the midst of a PC sales slump. some consumer-focused PC makers are setting their sights on the corporate market. While increased competition may after users even lower prices, analysts pay shaky consumer support histories may give companies pause.

"I think

Desktop there's very

much a concern about and longevity of these new suppli ers," said Stephen-Dube, an analyst at Wasserstein Parella Securities, Inc. in New York, "I don't think price is a material factor."
"This [commercial] market is the biggest in the world and the most competitive," Dube said. "A

new name will be hard to estab-Toshiba Corp. and Packard Bell to eater the commercial market, while NEC Corp. is attempting to expand its footbold in this areas. Besides the challenge of overcoming support concerns, analysis see the move as hadly timed given that the major players in the corporate market are already cut-

ng prices up to 20%. Such fierce competition could result in margins too slim to offer any chance for success, analy said. Morrower, they added, re-





sellers struggle to find shelf space for the existing market leaders and are unlikely to take on new

"We've already got more th we can handle with Compaq, HP and IBM, so it's difficult to imagine supporting too many more product lines," said Peter Jack son, president of Dataflex Corp., a reseller in Edison, N.J.

Caught in slump All other issues aside, PC sales

are in a slump throughout the in-dustry and this affects 'chip makers and box builders alike. Market bigwigs IBM, Compaq Computer Co., Digital Equipment Corp. and Apple Com loc. are all reporting or predicting weak first quarter sales.

According to William Zinameio

ter, an analyst at loternati Data Corp. (IDC) in Frami Mass, the growth rate in the U.S. 23% last year to 15.3% this year. While the company base't broken out corporate vs. cons growth rates, most analysis believe corporate sales will slow un-til the third or fourth quarter this

This eitch toward the core narket.comes as many vendors are watching their consumer and portables lines start to even out in terms of profit margins, accord-ing to Jim Poyner, an analyst at Oppenheimer & Co. Analysts add that it will likely be a year before the next pickup in the market oc-curs, and it will probably be fueled by consumer PC sales.

Briefs

Toshiba has best shot

ortables leader Tosh be stands the best shot at success in the ding to Stroben lube, an analyst at W

ein Parella. Toshibs aiready has s orate customer base wit a portables products. It plans to release a desktop ne in the fourth quarter Packard Bell, mean-

rhile, is approaching this urket through acquisi on, buying out Zenith based Groupe Bull in Feb reary. Zenith supplies rkstations, portables and highend servers to the cor

Boying Zenith's market presence may seem like an sy way in, but Packard Bell's support problems could weaken an already Imp Zenith name in this rket, said Jim Poyner, an analyst at Oppenheimer To succeed, these comties will need to refoces to meet the needs of the corporate buyer, said IIIC

about Richard Zwetchken Devotion to strong sup port and alliances with in dustry standards and defacto tools vendors can add strength to a company's cial market, he said.

Database sales slump in view

By Dan Richman

First Sybase, Inc. and now informix Corp. have announced disapcointing quarterly results, which has prompted analysts to predict he beginning of a slowdown in

Sybase two weeks ago an ounced an anticipated first quarter loss of as much as \$9 mil-lion (CW, April 8). And in as an uncement that caused a 28% age in its stock, Informix offciais last week said the company 12 cents to 13 cents per share predicted by analysts. It also ex-pects revenue of \$200 million to \$204 million rather than the pre-

Informix's revenue shortfall

al large North American contracts to close by quarter's end, said Margaret Brauns, the company's treasurer. Final figures for the quarter ended March 31 will be announced by April 18.

Beady growth slows The relational database may ment proteons market has exc ed rapidly for many years. It has grown about 22% each year from 1992 through last year, said John Mann, a senior analyst at The Yankee Group in Boston. But those heady days may be over. "The math shows the major RDBMS vendors are growing more slowly this year than last," said Terence Quinn, managing & rector at Forman Selz, Inc., a 6nancial analysis firm in New York The slowdown may be caused by

impact of the Internet and intra-nets. The big vendors don't have ideal products for that."
"But I think it's a bump in the

road, not a permanent and abso-lute slowdown in the market due to naturation," Quinn added. Other analysts pointed to the increasing popularity of Micro Corp.'s Windows NT as an ob cle to the continued growth of the big RDBMS vendors; those wen-

dors sell an overwhelming per-centage of their products on Unix Though the spurt may be over,

Mann predicts the RDBMS market will grow at an anopal rate of 16% between 1985 and 1998

and he said the market will his \$4.1 billion by 1998. "Yes, that is a slowdown in growth rate, but I can't see, the demand for RDBMSe talking off the end of the earth." he said.

Users took a pragmatic view of the slowdown and laformix's an-

opment plans because it's under cash flow pressure and sales aren't enough to support development, then we'll be concern But users aren't concerned with drops in stock prices," said Roy Pfingston, director of mortgage risk analytics at HomeSide Lend-ing, a privately held mortgage company in Jacksonville, Fla. "If the bad news doesn't result

in a cut in support, we're not too concerned," said Informix user Maribeth Anderson Maribeth Andersoo, vice pres dent of First Chicago/Mercantil vices in Chicago.

ions while they consider the erwell.com APRIL 15, 1996 COMPUTERWORLD



After years of making messaging richer for users, someone has finally made it more reliable for you.





Apple CEO Gilbert F. Amelio's numored plans to resuscitate the company may be the only hope for Apple to survive as an independent vendor. But I'm not sure the ideas will sit well with a lot of Macintosh

users

Amelio's recent comments, which were detailed in a widely circulated memo from an Apple employee, indicate that be seen Apple as a maker of high-quality products for discerning users who will pay a premium price to get the best. There's nothing wrong with that strategy. But it's a philosophy that puts Apple on the fringes of the market, where it will have to be content with influencing trends, not dictating them.

A lot of Apple boosters will have trouble with that. Part of their frustration with Apple's problems and its public image lies in their belief that if the rest of the computing world would only get with the program, people would buy Macintoshes in volume. But in order to succeed with a niche strategy. Apple can't plan on that. In fact, expecting

people to buy Macs in volume is what got Apple into its current predicament. Its cost structure is way too high for a boutique market approach. Its marketing strategy is oriented toward mass audiences. Its appeal to thirdparty software developers relies on selling millions of howes a year All that will have to change if Apple is to execute effectively at the high end of the market.

There may be little choice. The Mac's problems building critical mass - its market share has actually declined in the past year - have forced Amelio's hand. The company must niche itself.

The Macintosh is a fine product that can flourish in focused strongholds such as graphics, publishing, science and education. But for it to do so will require a fundamental rethinking of Apple's mission. Ironically the survival strategy may forever forbid Apple from becoming, as its slogan used to say. "The computer for the rest of us."

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> Paul Gillin, Editor Internet: paul_gillin@cu com http://www.ultrenet.com/-ppillis



Model management I am configured. Articles such as "The

sorry state of codems managers [Viewpoint, CW, March 4] seem to appear almost weekly, pinning inef fectual management of distributed systems on the impending demise of America's comorate information in frastructure. According to Patricia Seybold, "distributed systems are so badly managed, it's a wonder businesses function at all."

Yes, Fortune 500 comp as U.S. Sprint, Ontario Hydro and Pratt & Whitney each have confrostenterprise management with their eyes open, knowing they had the formidable task of managing poorly planned information technology environments that had been cobbled together over the years. With the singular objective of de livering optimum service and availshility to customers, each company took time to design a model center that could ensure availability in the enterprise first. Then they could define jobs according to requisite management functions. They also used technology to fit their models, rather than retrofiting their mi agement centers to the available technology

Viable lessons can be learned from successful information technol ogy managers such as the ones at Sonnt, Ontario Hydro and Pratt & Whitney, who designed their 'nextreneration" enterprise management centers, as opposed to pejurative opinions that leave information technology managers thinking they mucht to design their next careers.

Jack Brown Senior director Rook & Babbase Inc See lose Calif

World Wide Wai

Open up the 'net Paul Gillin's editorial regarding

"AOL's sellout" to Microsoft [CW, March 18], combined with recent suncements about Microsoft's plans for the internet, should lead us to insist on open standards for this area of technology The Microsoft way is to require a

Windows 95/NT base for using its Internet enabled products. Contrast this closed approach with what we could have with open standards lots of competitive offerings that could talk to one mother It is up to as, as consum

sist on it and to "vote" with our purcharge orders and patron

Bank bungling

The point of the First Massachus Bank conversion fasco ['No meney, boney," CW, March 18] wasn't technical problems with the ATMs or with decrypting the personal identification numbers, but that the nega-

tive customer impact was almost to tally preventable. In my many years in banking soft ware. I've pever seen a conversion so badly handled. First, the PIN con-

version could have easily been test ed. Just convert a few and call to ask Sharemut if they are correct, PINs. are "secure," but not that secure. Second, top management made no

provision for live customer tele phone support. The listed number oduced only a recording to call during regular business hours. By the time I could talk to a person, I was calling another bank to open a new account. And finally, the Banknorth peop

are still explaining when they should be apologizing. Doing the coor sion with inadequate testing and untested assumptions was questionsbie. Not having any live custor support was absolutely boacheaded David Obox Contierect Corp

Stow Mass tscDarid@ool.com

More letters, page 40

#Computerworld welcomes comments one words and should be addressed to Paul Gillin, Editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax number: (506) 875-8911 Internet: letters@cw.com Please include an address and phone number for verification.

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Bill and Ken: Spittin' into the wind

he comparison may sound dumb, but I'll make it anyway: Bill Gates today and Ken-Olsen at the peak of Digital Equipment Corp.'s reign. Gates. like Digital's deposed founder, is having a lot of trouble containing his aritation with people who question whether his contpany is in danger of being drowned by the next wave of technology.

Comparisons between the two are irresis I clearly recall a press briefing in the mid-1980s, shortly after Fortune magazine featured Olsen-on a cover emblazoned with the words "Entrepreneur of the Decade," Or was it century? No matter. Digital was riding the crest of the proprietary systems wave. Right behind it was a tsunami called onen system

A reporter had the audicity to sak Olses how Digital's VAX would fare in the emerging world of open systems. Olsen never answered the ques-tion. He quite publicly bersted an excellent re-For Olsen, the porter with the brilliant rejoinder, "How can you problem was ask such a studid question?

So it was with Gaten at a recent development ference. As reported in Computerworld, Gates laughed derisitely when asked how Microsoft Corp. would fit in to the world being shaped by that next great issuasmi, the Internet. The media works "overdramatize these things; that's your job," the increasingly aggravated Gates paid.

Why is Rill on annexed? There are at least two

reasons. The first can be found in the news of

slumping PC sales, due in part to a corpo rate world that hasn't raced Windows 95. That's a crushing blow to Microsoft's psyche, especially after the mother of all product launches lost summer. There isn't

igh value in Windown 95 to encourage nies to invest in retraining end users

That's right — there isn't enough value in a pre-micr Microsoft product. So upgrades to Pentium-class machines are slow. Corporations are wait-ing for Windows NT. If you don't think that is ring to someone like Bill Gates, think again. The second cause of Gates' perturbation is the ernet. In many ways, the Internet is antitheti-

cal to Microsoft's business model of producing low-cost, high-volume software in markets it con-trols. Microsoft doesn't control the Internet and ver will. Not only that, it is being forced by Netscape and others into giving product away. How's that for trashing the business model that gave Mi-crosoft a higher market value than IBM? hen you're as big as Microsoft and bus

is still growing like a weed on steroids, it isn't



sider forces of change that threaten your way of doing business. Ken Olsen never saw the light until it was too

late for him and almo too late for Digital. To give Gates due, be showed savvy and some humility in licensing the Java lanage from rival Sur

Microsystems. And he has publicly stated that all parts of Microsoft will now cha-cha to the Internet tune. Ken Olsen 10 years ago said some nice things publicly about Unix but never matched the words with action.

is Bill Gates amarter than he is arrogant? Cer tainly he is one of the smartest two or three peo ple of the Information Age, and his company is one of its wonders. Maybe he's the entrepreneur of this decade, just as Oisen was of the last. But I just checked the calcudar and realized how little time there is left before this decade is over

Laberia, former editor of Computerworld, heads Bill Laberts Associates, a media consulting and contra ablishing firm in Holliston, Mass. His Internet ad-

David Strom

Telcos dial 0 as Internet providers

open systems.

For Gates, it's

the Internet.

Telephone can build pipelines, but they aren't nimble or creative. ith all the hoopia surrounding the entry of AT&T, MCI, Sprint and even some of the local Bells into the world of Internet service providers, you might be tempted to consider them seriously for your corporate access. The prices certainly look attrac-

But don't do it. "Data" is still a four-letter word for the telephone companies. You'll be bester off for the telephone companies. You'll be better off a great deal of expertise running large, routed in with a more experienced provider such as Netsernet Protocol networks and managing terminal com PSI or Ulunet.

First off, what do you really want from your Internet service provider, anyway? There are three kinds of services: · Pioclines. These cons the Internet by making a local telephone call to an internet service provider's modem in major U.S. or international cit-

ies. This is especially important for people who travel or work in remote offices. Content hosting. This is when the provider hosts various Interset related services (such as electronic mail and World Wide Web services) on their computers and Internet con-

freeing your resources for other tasks.

• Identity. The Internet service provider has control over your corporate.com domain name, and thus your identity in cyberspace.

Frankly, you may be better off picking the right kind of service provider for each kind of service,

rather than putting all your eggs in one banket.

The best pipeline-oriented providers have lots of dial-up anathers in lots of cities. They keep an eye on what's happening with their networks to ensure you don't get a busy signal or — worse — so answer when you call. They have around-the clock help lines staffed by humans, and they have

"Deta" is still a

CompuServe, for example, kno with accres numbers in most ma or countries, not to mention most major North American cities. This is a category the phone compoairs have a chance at cracking But it will take time for them to build their net has to the level of CompuServe, BBN or Unnet

it to name a few. What about content hosting? To do well I internet service providers need different skills. They have staffers who know how to rus Web and other internet servers and can help you with your content-creation needs. The better contest-oriented providers are often smaller than

ine providers and have younger, hungr The phone companies don't have a chance in

lears fast and move quickly. You want folks who are creatise — a word not normally associated with the telephone companies. Finally, there's the whole identity issue. You

want a provider that is small yet close to the top of the Internet connectivity food chain. That means the provider is just a hop or two away from one of the Network Access Points on the national backbone, so your packets don't have far to trav-el. (You can easily figure this out by running Tra-

cert, a route-tracing program that comes with Microssiffs Windows NL to see how you are conerted) Besides, you want to be able to call your prov er's president when you seed something done. After all, you would expect outhing less from your advertising agency or public relations firm when they represent your identity to the world at large. Do you know the president of the phone company

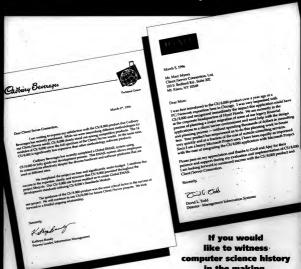
think you'll have suy chance of getting thre So the final score is pretty grim for the pl companies. They have a chance in maybe one of three categories. They have a long way to go.

vice providers. He runs the Web Informant (http://www.strom.com), a World Wide Web site cow

ering laternet and high-tech marketing issues, and a outling firm in Port Washington, N.Y.

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Sorry kids, no extra \$

I'm sure that the "Timing is right for Cobol programmers," [CW, March 11] but not bese "toddlers will receive Social Security cks," as the chart indicates.

Our organization may run into problems because of the Cobol turn-of-century situa tion, but we will most certainly not just spit out checks to everyone born in the year 00. We pay out billions of dollars each month to millions of Social Security beneficiaries. Each one provides a good deal of evidence [of eligibility] in order to receive a moothly check. I hope you are no longer under the ing to be paying millions of dollars to new-borns just because of a calendar change. Come on, please, give us a little credit. Myron Elias

Washington Heights, N.Y. myron, elisa@csa.gov

To remove any misunderstanding, the Social Security Administration has main

birth for decades. Because many of the people who receive our benefits were born in the 1800s, we have always had to worry out storing dates of birth with an indicator for the century in which a person was orn. Therefore, toddlers will not be getting any windfalls come January 2000. Of urse, those children who are entitled to benefits will continue to receive them in the next century.

Chris M. Computer spe . U.S. Social Security Ada



IS women share views

I found your article on women in the high rech industry very interesting [Ms. MIS. "From glass onling to glass slippers," CW. March 11]. For the past eight months, I have been working in a small software development company that my brother and some of his friends founded. I still answer most of the incoming calls and have noticed that very few women call, and most of the men who call are quite surprised to find that one of the "boys" in tech support is actually a woman.

I will be leaving for college this June and haven't really decided what I would like to major in. I am interested in learning more about IS management. Noelle Vogt

After flipping through my latést issue of Computerworld and coming across Laura DiDio's column, I must say I am delighted to see one of the major trades devoting space to women in the business. Keep up

> IS of fac od Sovings Boak od, N.Y. phali@ant.com



the good work



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one million customers. That's a lot of credit cards and a lot of data.

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Reliding an IS team with the right combination of beclusical and business shifts is one of the CRO's greatest challenges. How do you brain and propaire your staff for an unknownable future? Five IS loader's from diverse backgrounds discuss how they are proparing for homorrow.

BY BRUCE RAYNER

More the Roundtable



Carol J. Ande is vice president of information technology at TTX Co. in Chicago. A 40year-old private company owned collectively by a

group of milroads, TTX buys and mainas flat cars and leases them to its owners - including Burlington Northern, Inc., orunion, Inc., Consul, Inc. and Union Pacific Corp. - as well as nonowner railroads. "We are kind of like Herra to the rail industry," Anderson says. She has responsibility for about 80 information systems staffers, who are organized into two jor groupe an application development staff and an operations staff.

Jean Claude Dispaux is senior vice pres dent of information technology and istics at Nestle S.A. Based in Vevey. Switzerland, the \$43 billion corporation consists of about 80 businesses worldwide.

Nestle produces a variety of consumer products, from chocolate to pet foods, ice cream to mineral water to

Disputs has direct consibility for about 200 IS stuff mempany headquarters. The rem ing 2,500 or so IS professionals around the world report to IS managers at their local operating companies. Dispute has a "heavy dotted-line relationship" with the IS departnes at these operating companies. "All the budgets have to be reviewed and ap-



Donnelley & Sons Co., Chicago, At \$6.5 billion in an nual revenue, the 135-year-old company is the world's

Alan Guibord in

vice president of

information tech-

nology at R. R.

This year it's the Internet. Next year, who knows?

Absent a crystal ball, the chief information officer's job of keeping up with technological change is, at best, a seatof the panes proposition. Yes, that is exwell what the executive committee expects of the CIO. With the future uncertain, planning the staffing requirements of the information system group is possibly the toughest job any 15 leader faces

Says Jean Claude Dispaux, senior vice president of information technol ogy and logistics at Nestle S.A. in Vevey, Switzerland: "I can't train my staff on technology that is not here wr. The way technology is changing today, you try to keep

up; you can't really anticipate it." To eain some ineight into how to keep up. Computerworld tapped five respected IS

leaders, including Dispaux. While none of them claims to have definitive answers to the staffing issue, they share some artitudes and strategies on how to move forward. Their insights might prove useful to others grappling with the same

THE WAY TECHNOLOGY

IS CHARGING TORAY. YOU THY TO KEEP UP: VAN CAN'T MEALLY

> ARTICIPATE IT," SAYS MESTLE'S DISPAUX.

Hire buyers, not makers As for major trends, the five IS leaders agree that the days when the IS depart ment spent most of its time crea custom applications are over. Instead of inventing solutions, the IS group is taking on the tole of adapting third-party solutions to meet the internal busi user's needs. This shift in mission has

perfound effects on stuffing. Where a package can solve a key need, we are going to buy it," says John Stevenson, vice president, information

technology, at Lennox Internationa Inc. in Richardson, Texas. "The skill sets change quite a bit from knowing how to code a structure to knowing the business environment that the package should support. The old title 'program mer analyst' becomes 'business analyst - with 'analyst' being the key word and 'business' being the process'change that we are going through. A business analyst is probably going to be the most important employee that I have

in the future." Survenson points to Lennox's rollout of SAP AG's R/3 this year as an example of the shift: "About 70% of what a SAP environment

does is shift your focus from code writing to understanding the business process. You need to know how the business processes work and then lay that down into the business process model that the software package beings to you. That is a

different skill set." Nestle's Dispaux echoes Stevenson: "We are moving from an IS department that deliven systems to an IS department that delivers systems and an infra-

ernicture, such as standardized PCs or a global communications network. What we need are project leaders and high-level technologists. I want as few peogrammers as

Dispaux's project leaders work closely with users, and they do so for the long haul. They must understand users' business needs and then either buy a software package or subcontract the work to a third-party vendor. A good project leader, he says, has been schooled in both IS and business, has

A DESINSOS ANALYST

IS SCING TO SE [MY]

MOST IMPORTANT

LANNO 2'S STAVENSON.

worked in the business, not just on the IS side, and has overseas experience.

As for high-level technologists, these are people who can resolve a highly technical problem such as choosing between Microsoft Corp.'s Windows NT or Windows 95 for the desktop. Resolving doesn't mean doing the job; it may

mean talking intelligently to Microsoft or the Gartner Group and buying or recommending the right product," Dispaux says.

*Fewer and fewer of our big companies want to maintain, say, a high-powered relecommunications team. They need a telecommunications operator.

munications operator, but when it comes to a real technologist, they would rather turn to Nestle headquarters for a standard. If the standard does not quite fit



Of course, changing the skill requirements and demanding business acumen from the IS staff is easier said than done. Hiring IS professionals with MBAs is part of the solution. But constantly re-educating and retraining the existing rechnical staff is where IS lead-

een need to spend most of their time. Drawish A, John, managing discoor of information and continuanciations systems at the Church of Jesus Christ of Latter-day Saints, views the challenge philosophically: If you want permanent change in an individual, you change their mind-set or you change their heart. We still about dealing with whole people vs. skilled hands. Capbility building is an investment. It's not

like training, which is an expense."

John has developed a set of five principles that be "lives and leads his IS

staff by." They are the foundation on which he builds capabilities:

which he builds capubilities:

• Alignment. The world does not revolve around 15, so 15 must align itself with the mission of the encorpose.

• Obsession with quality service. Deliver the best possible solutions with the

highest level of quality possible.

Responsible leadership. Lead the IS organiagation so it is capuble of making responsible and informed

choices.

Respect and trustbased relationships.
Create ao environ-

Create ao environment based on trust and respect, where people can talk about things openly.

chings openly.

• Personal excellence
and self-reliance.
Maintain a commit-

ment to continual personal improvement,
learning and growth.

John's capability building currently

ja fond oppositivy outcome Cantoniy ja fonded on creating a mell that can build and support a workhold of the munications influenciation. Because he later only members of the Mormon Church who are in good transling, his ability to motivate people and sweating you would differ a bic from the corporate world. "By it compensive as the corporate world." By it compensive as the corporate world. "By it compensive as the corporate world." By it compensive as the corporate world. "By it compensive as the corporate world." By it compensive as the corporate world. "By it compensive as the corporate world." By its compensation world in the corporate world. "By its compensation world in the corporate world." By its compensation world in the corporate world in

Instead, insolvation comes from two things: First, people are here because of the cause, they connect with the enterprise. Second, we strive very hard to create a learning environment where individuals can grow and build capabilities, so they are limited only by their own choices."

The philosophy works, in part, because John hires selectively. "Usually we are not going after a body, but we are going after a specific capability. We untally hire people with experience and proven track records." John also emlargest commercial princing operation Mach of Donnelley's growth in recenpants has been though acquisitors, opecially oversus. Integrating these requisitions in major forces for Genderle fortered to attention with opinional returned the attention was mady definited or incine, which is causing a for of uphers for employees. Gulbori is empossible to cooperate IS and relecommunication which includes about 500 people—150. Chicago and the remainder in wrise Chicago and the remainder in wrise

as units around the world

Durwin A. John is managing director of information and communications systems, Church of Jesus Chies of Lauer-day Sains in Sak Lake



Cay, John overson the Mormon Chunch's workshield to Standing, including a suff or headquarten that evers the U.S. and Canada, as well an appoort suff in a doesn countries. In addition to dealing with sended business applications, John Mormons appoort the chartest fools instinously nor work, including communications with 350 mainters. He also apport the church's generating write, which has one of the largest final-word distances in the world.



John Servenson is vice president, information technologs, at Lennox Insernational, Iric. in Richardson, Texas. A privately held

has there division: Lemons Industries. Armstrong Air Conditioning, both of which produce heating and accordation in a conditioning and expendition of the conditioning equipment, and Heaterstaff, which makes parts to service refrigeration abouting systems. Someone has responsibly to a sone IS group of about 110 people, which arever Lemons Industries and about half of Heaterstaff. His suff also support copposes visit and date communication nouls. The other half of Heaterstaff, so well as Areastrough, here their own IS stiffs.



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The shall be verying this Recent Parish, a company that have her to make criterior even contains work in the real work of over the parish B has below the special and companies according translation to firstly one description companies according to the same for year. If the January or the same for year, if the January or the year, if the year, if the year of year, if year year, if year

Bewlett-Packard Computer Systems



When he joined Neede S.A. five years ago nior vice president of information technology and logistics, Jean Claude Dispaux ned a mean of eight senior information technology managers who are his eyes and and the world.

It is Dispaux's way of maintaini "doned-line" control of the global IS and logistics infrastructure in a decentralized. rated organization. It is also Dispaux's way of gathering data on technology trends m the field, which helps him plan for the skills that Nesde's IS department will need

to the future Alan Guibord, vice president of infor-

mation technology at R. R. Donnelley & Sons Co., takes a similar approach. He has and a research and development group that madies a range of computing and communications developments and recommends implementation. The group also serves as a window for identifying skills Guibord will need to develop in his IS

Known as the Coordination Group Nestle's IS Swar team works with opera units around the world. Its head, Olivier Gouin, reports directly to Disposat at company headquarters in Vevey, Switzerland.

Every member of the Coordination Group has worked for many years at Nesde, and Dispuss tries to limit tenue on the team to no more than three years. The group is international to composition. Currendy, there is one Frenchman, a Spaniard, a Canadian, an American, an Italian and three Swiss - one French-speaking and

two German-speaking. Guibord's group at Donnelley consists of 18 people. Currendy, it is studying the Internet, advanced messaging, remote com-puting and high-bandwidth communications, such as Asynchronous Transfer Mari

Every quarter, the group assembles a handful of vendors to address trends and discuss Donnelley's specific technology needs. At the last meeting, Donnelley hote ed eight telecommunications wendors. The company plans to invite computer hard ware vendors to the next meeting.

plays interns from the universities in Utah. "That has turned out to be an excellent source of talent," he says.

Teaching new tricks Carol J. Anderson, vice president of in-

formation technology at TTX Co. in Chicago, also makes a distinction between skill training and capability building TTX is doing both. But she points out that even in some technical training, resistance from professional staff is to be expected. The reason is the employee's attitude toward change.

Like old dogs, some IS profession als are unwilling to learn new tricks. But to be successful, Anderson says, 'they must accept that if they learn is new skill like [using Powersoft Corp.'s] PowerBuilder, that is not going to be the last thing they will ever need to

has been mixed. "I'd like to say that our IS staff all think that the new client/server environment is great because they are insellectually challenged. But there were a lot of skeptics when we started 2'n years ago. They'd ask, 'Are we really doing this? Are we seri-

ous?" she says During the client/ server rollout, Anderson's strategy included repeating the message until everyone accepted that the change was indeed real. It also included a more flexible approach to training "There is not one approach to training that is night for everybody.

The training and some

of the approaches to

training need to be cus-

IS AN INVESTMENT."

somized." To this end, Anderson's management staff has laid out a personalized development plan for each employee and tailors a training pro-

ness components. The technical segment includes computer-based training, and the business training includes formal course work covering general business concepts, business writing and knowledge of business functions specific to the company

One focus of the business comp nent is customer service. "IS professionals are encouraged to take courses that get them thinking about customer service. They have a combination of ... theory supplemented with some tole. playing so that they can actually gain experience in dealing with irate customers," Anderson says.

In addition, she sends first-level managers to "management interchanges" sponsored by a local facilitator. You can usually find the technical courses or the management courses. but at that first level of management, you don't find many good opportuni TTX's success at initiating change ties for people to get together and discuss technology topics from a management perspective. That's been a great assistance to us."

When hiring, Anderson looks specifically for good communication skills, both oral and written. "We are not looking for the techie who can't go out and talk to people in the business unit."

As part of the interview process, the candidates provide a writing sample. "It is very tough to assess written cotomunication skills," Anderson says, "but it's been a big help to see how they organize their thoughts.



"CAPABILITY GUILDIN

SAYS THE MONMON . BCH'S GASWIN JOHN

Change mode Rapid change also has

permeated R. R. Donnelley & Sons Co., as the publishing giant grapples with the digital age There has been minimal change 'til gram to fit the employee's needs. The now, admits Alan Guibord, vice presi training has both technical and busi . dent of information technology who

Focus on the Middle Sphere

According to John Servenson, vice president of informat Lennox International, Inc., there are three kinds of IS pe who can transition from code writing to business analyst ing, those who will never transition and the middle spite

It is the modelle sphere that requires the most attention, Servenson is "They are the ones that we've got to figure out how to get just the rityle of training, so they can become adopt and successful in the late "90s."

Some of that training, involves formal courses, but much is on-the-job, he says. "We sell them, "Fut down your pencils and pick up your pen. You

are grings to go from with your customers, you are to spend me working the business processes out with your customers in the internal departments. "For the more part," he says, "the one-doje thristing has a 50% shows of successing on in own with this middle group. Others will need some fi-cilitated training either from the custode — university content, for example, — or from a very arrante person inside the business unit.

has been with the company for about a year. "But now, we are introducing new financial, customer service, content management, distribution and manufacturing systems in a move to become mally digitized. From the individual employee's perspective, we are now into

a high-change mode." To facilitate change, Guibord has a very formal development plan for each IS employee, complete with an on-line training database. This includes the employee's company-supplied training courses, a tuition reimbursement program and any individual initiatives that the employee develops with his or her supervisor. Donnelley's in-house training budget for each IS staffer averages about \$1,500 a year.

Using a medical metaphor, Guibord says his goal is to build a group of "general practitioners." This includes an IS staff skilled in client/server technology, database, data warehousing and data mining applications. "We will bring in brain surgeons when we need

Guibord admits that "finding people with good business skills is the biggest challenge." To drive home the importance of understanding the busi-

ness, he began giving his employees quizzes approximately six months into his tenure at Donnelley. "I figured they. should know at least as much about the business as I do," he says. And to educate his managers about the husiness. Guibord convenes the

meeting of the 12-member IS management team at a different Donntelley site every month. *During these meetings. we meet with the local business unit's senior management to get an understanding of the operation," he says.

Mentoring for the future. Guibord's focus on staff development

includes a mentor program, in which he pains an experienced manager with a sing new IS staffer. The program tans IS and non-IS managers alike and

provides a mechanism for employees to learn first hand from others' expe-

The Mormon Church employs a variation oo the mentor theme. Throughout the organization, there are formal "censers of excellence" - in IS, for example, there is a Project Managers Center and a Systems Programmens Center — that work to strengthen employee capabilities, John says.

The centers are led by people considered to be among the best in their particular disciplines, who have excellent human relations skills. Working one-to-one, center managers identify an employee's strengths and then talk shour what dolls the employee needs to work on. They also talk about how to change old ways of doing things that are getting in the way of development

For example, if an individual is having a hard time working with others on the tram, the center leader provides feedback and counseling to help the individual improve his team interactions.

Action Items

No one IS leader has a corner on good ideas. Here are some ideas you might want to consider implem

· Develop staff with strong busines and communication skills. · Formalise the learning process, and

make it part of the job. · Communicate over and over that change is here to stay.

· Commit to a mentoring program, supping IS and non-IS mentors . Set up an IS research and develop

ment group that scans the horizon for future skills requires Most important, develop a set of principles by which you will live and

lead your staff. Broadcast it and be con-

ABOUT THE AUTHOR



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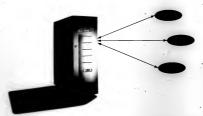
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ucts" for securing Internet

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declined to comment on pricing. Prices for Atalia's cur-

rest hardware-based encryp-

tion products start at about

Sevelopment deal, Atalia will

provide secure firmware for

memory management and non

ware to support security proto-cols and technology.

VLSI will incorporate several

\$12,000.

ed aneration of the

under the joint effort will hit the market by year's end, officials from the companies said.

Making the Web a safer place

By failoumar Viewan

he most recent effort to make the World "Wild" Web a safer place for corporate commerce draws on years of electronic commerce

Atalla, a subsidiary of Tandem Computers, Inc., and specialty chip maker VLSI Technelogy, Inc. will team up to create chips with Atalla's hardware-based cryptographic technology. Banks and retail outlets have used the technology for

The hardware-based data encryption products will be aimed at making electronic commerce apolications secure over

leneryption functions| from

By Bob Francis

Want to see your comp

Corporate desk jockeys won't be playing Tetris, but PC

next PC? Check out your kid's

vendors hope Game Boy's easy-to-use features will trans-

late into fewer headaches for PC buyers. That was the message at Mi-crosoft Corp's Windows Hard-ware Engineering Conference

(WinHEC) in San Jose, Calif.

WinHEC, where Microso

tells the converted what it will

Joint venture to build coded modules the operating system and the server and putting (them) is a

separate proprietary box" is that the code is much harder to break in to, said Ted Julian, se analyst at International Data orp. in Frieningham, Mass.

Using -hardware-based data
rescryption should speed up Corp. in Framingham, Mass.

volves applica-**Data encryption** tions that are executed on the World Wide Web server under standard operating systems

such as Unix and Microsoft Corp.'s Windows NT. In the agreement to be an-nounced today, Atalia and VLSI will build specialized platform-independent hardware modules that contain cryptographic

code. These modules can be at tached as peripheral devices to standard Web servers. Multiple Internet applications can ac inevitable for those who are cess the code in the modules to processing large volumes of en-

carry out functions such as crypted data," said Steve data encryption, data authenti- Crocker, senior vice president cation and message integrity. Any attempt to break in to an Aralia/VLSI box will instantly "zeroize" the data in the bex and render it useless, an Atalia

mokesman said. merce, said Gary

Sabo, vice president of the Intergroup at San Jose

Because the com are offlooded from the server to a separate special-purpos hardware module, the server's CPU is free to carry out other tasks, be said.

"Hardware solutions will be and logic functions in special

Microsoft wants to keep it simple

onnector: 400M byte/sec, standard that attaches i-speed channels and printers. May be used for in devices and LAMs.

laces internal bays, disk drives and

Service bay: Rep CD-ROMS.

-- 1394 Connector: For cameras and sudiovisual applications.

do down the road, saw the company unfold its plan for a Sim-ply Interactive PC (SIPC) (see related story, page 49), among may also be used for storage other things, Game Boy was one of the places to which Microsoft looked for inspiration.

One idea Microsoft cribbed from Game Boy was the connector for the 1394 specifica-tion, which the Redmond, Wash-based software company expects to ose for high-speed data transfers for multim carions in the home. But same connector eventually devices, network connections and videoconferencing in con-"These are the kinds of ags we'd like to see immedistely. I hope the industry can move quickly to give us some

of these tools," said J. Matthew derrick, vice president of information systems at The Merrick Publishing Co. in Louis ville Kv.

The SIPC and the changes

Play because the PCs will be ers and software should make PCs easier for corporate users to manage at the desktop and remotely — and easier to use. Both goals should be possible at current PC prices, syste

and case-of-use features also are included in Plug and Play. Microsoff's current effort to make PCs as easy to cooks unter r.c.s as easy to configure as Apple Computer, Inc.'s Mac-intosh. But future PCs may

used for more high-powered applications, such as multi-media, video and data mining. Third-party vendors are just ting Plug and Play into their cts, so we haven't really

spen what it's going to do to the industry yet," said Martis Reynolds, an analyst at Data sest, Inc., a research compo ny in San Jose, Calif. Reynolds said Plug and Pluy will have difonly moving beyond its current specification. A new specification may be needed, he

Although Microsoft gai estry support for Plug and Play, it was a difficult road to build, and the going may not get any easier for SIPC, said Dwight Davis, editor of "Win-dows Watcher," an industry etter based in Redmond

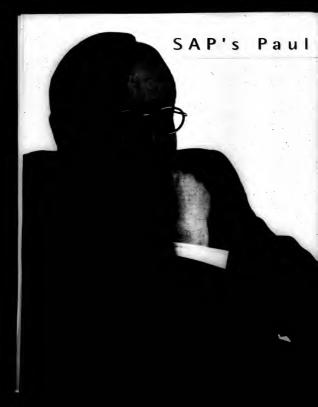
thing. You need coordi [among] the hardware, the BlOS and the operating system for this to work, so it's always tough because no one wants to go first," Davis said.

The focus of case-ofon home PCs, but hardware makers expect to see esse-ofuse features make their way in-to -corporate boxes, too. The ragement features expected

next-generation boxes should cut corporate costs for managing and refitting stan-dard desktops.

benefits of this as the industry begins delivering these fea-tures," said Chris Peterson, a strategy planner for Hewletiutegy planner for Hewlett-ckard Co.'s home deaktop

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Wahl, on Informix.

Paul Wahl CEO, SAP America "Informix databases have contributed significantly to SAP's rapid R/3 success. Our enterprisewide, client/server applications offer industry-leading functionality and flexibility, and informix's Dynamic Scalable Architecture" delivers both the database performance and scalability our customers need."

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VP Servers &
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This Week's TechnoTrivia Questions Find the answers in this issue of Computerworld

- 1. What computer company did the title character in the movie Forrest Gumn invest in?
- 2. Researchers at Georgia Tech are using virtual reality techniques to treat what disorder?
- 3. Borland founder Philippe Kahn plays what musical instrument in his spare time?
- 4. Some say the first "personal computer" was used by MIT hackers, filled one small room and cost \$3 million. What was it called?

5. In addition to black and white, how many colors are in the Apple logo?

A DATA WAREHOUSING SYSTEM TECHNICAL ARCHITECTURE



Inside is a fold-out poster displaying the key components of a data warehouse system.

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THE PROSET END: EXPLOYING THE DATA

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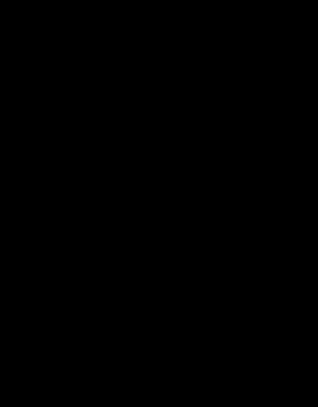
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Oracle Geteways

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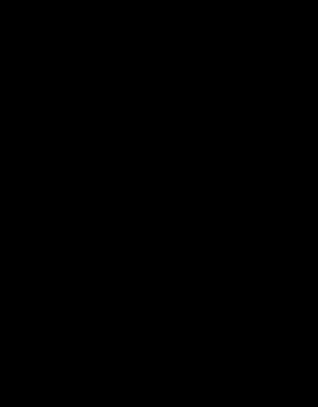
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 - Information Builders Increme Informix Universal Warehoo
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DATABASE ASSOCIATES INTERNATIONAL This poster was developed by Colin White, who is President of DateBase As-This poster was developed by Cook withit, who is research or livinous accounts immediate, and consulting company. As an analyst, his approximent in distributed computing, data warehousing and the Intransic DataBase Associates is located at 16000 Monterey Rued, Suite 110, Morgan Hel, CA 95007, helphone 1800, 779-6006, for 1900 1779-2074, Intermet 60807400mcmail.com





Ultra 1 keeps users revolving around Sun

By Craig Stedma

As Sun Microsystems, Inc. prepares to launch a line of 64-bit. Unix servers this week, users report mostly smooth sairing with the company's workstation predecessor, the Ultra 1. The Ultra 1.

the Utrassystem and the stations, which shipped last November, have juiced up performance by two or more times over Sun's earlier machines, several customers said last week. Users who were begging for more speed said Sun's now competitive again, which has reduced their urgency to look to other vendors.

Solaris 2.5, the new operating system that accompanied the Ultra I hardware, has been easier to deal with than previous releases, though there is still a heavy flow of patches to fix ball a heavy flow of patches to fix ball a users said. Also, some users said

users said. Also, some users said they are still waiting for third-party applications to be ported to Solaris 2.5. The Ultra Enterprise serversbeing announced this week will

being announced this week will also require the operating system and are expected to provide similar performance boosts. Don Baune is one Sun customer who was leaning toward switch-

ing to Digital Equipment Corp.'s Alpha-based workstations before the Ultra 1 machines came along. "We didn't want to more away

"We didn't want to more away from the single (vendor) enwronment that we have now, but Alpha's price/performance was so much better," said Baune, manager of computer operations at the University of Utah's Department of Radiology in Salt Lake

However, UltraSPARC runs the radiology department's medical imaging applications revo to its times faster than earlier SPARC-stations could, enough to keep the school in Sun's orbit, he said. Baune has installed six Ultra 1 boxes and said be expects to order two of the new servers this

Switching off Eastman Kodak Co.'s office imag-

Eastman Kodak Co.'s office imaging group, which embeds Sun workstations in its high-end printers, had been multing a switch 'because Sun's performance just wann't keeping up." said Rex Hays, a staff engineer at Kodak Digital Technology Center in

Hays will still check out other platforms but said be thinks Sun

Sun's spy workholds workstration ablorated 77,447*
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lourer Decembers, Inc., Ser State, Calif.

is now in position to best its rivals, thanks in part to UlruSPARC. On his own desitop, however, Hays still uses a SPARCutation SI that runs the old SunOS operating system because the computersized design tools he uses haven?. Until they get bumped up to Solaris, I'm kind of stack with the

SPARC station," he said.

Others said Solaris 2.3, while more reliable than previous releases, is still producing a steady stream of patches. The number of faces being thrust upon users "continues to spiral out of cooto", said Måde Rembis, systems and setworking manager at Pricson Business Services in Cypress, Calif., which is using the new operating system on limited numbers of pre-Ultra 1 boxes But several users were mo

"It is a pain to take a system down and install a patch, but nothing is perfect when it comes out the door," said David Pensak, a senior research fellow at Du Pent Co. in Wilmington, Del. "At least Sun is working as quickly as possible to fir things."

PCI-4 costs \$495, and PCI-8 costs

\$695. Windows NT and RISCbased Unix operating system drivers are provided free with each

New Dimension Software Ltd.

his appounced Control-T 2.1.0, s

removable media management system for IBM MVS-based data

According to the Irvine, Calif.

company, the product offers

the Dynamic Dataset Stacking

Facility, which stacks data sets on

to a single tape as they are creat-

ed. This was designed to help or-

Control T 2.1.0 includes fea-

tures for external tape manage-

stions optimize their media

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Microsoft PC may affect businesses

n. n. t Parad

By Bob Francis

Microsoft Corp.'s Simply Interactive PC (SIPC), while clearly
aimed at the home market, may
change the way regular business

Preserve built.
For instance, the PC's clunky internal expansion slots will be replaced by external expansion slots by the slots for items such as disk and CD-ROM drives. Also out: the current serial bas architecture. That will be replaced by the Universal Serial Boss (USB) for low-speed connections, such as printers, and the IFSE 138th bust for

gh-speed data transfers such as

Microsoft, in Redmond, Wash, is courting support from the disk drive industry to use 1394 as the next interface in replace SCSI. But representatives from the storage industry who were at Microsoft's Windows Hardware Engine

soft's Windows Hardware Engineering Conference seemed cool to this idea, preferring Utrus SCSI, the next generation of the current SCSI standard.

SCSI standard.

in any case, before the market
gets SIPC, it will get PCSF, according to Microsoft. PCSF is
the base platform Microsoft

sees as necessary to run operating systems and applications planned for next year. In addition to 1394 connections and the USB, corporate users will see more

power management is next year's PCs.

Better coordination The power management features will be added to peripherals

The power management features will be added to perspherals as well as to basic PCs. They should improve operating system and hardware coordination, according to Bill Veghte, a group manager for Windows PCs at Microsoft.

New Products

Vidar Systems Corp. has intro-

duced TruScan Flash.
According to the Herndon, Va., company, TruScan Flash is the fasterd large-document, black-and-white scanner available. It features a scan rate of 3 in./sec. and resolution of 400 dot/in. It includes a softenatio document

staging, image centering, multiple thresholding options for clearer scans and thick document scanning. TruScan Flash is bundled with

scanner control software that lets users pan, rotate, paste, 200m, deslacw and despeckle images. TruScan Flash costs \$24,995. Vidor Systems (700) 471-7070

Central Data Corp. has introduced PCH and PCH, PCI serial nort controllers.

According to the Champaign, Ill., company, the devices have full Peripheral Component interconnect but component interconnect but compatibility for Plug and Pluy installation and feature full modem control on all ports.

They were designed for connecting moderns, terminals, printers and other IS-232 devices.

ment and robotic interfaces. It protects incoming tapes and allows for easy merging of tape libraries.

Pricing for Control-T 2.1.0 starts at \$30,000 for a base configuration.

New Dimension Software



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Sybase stokes IQ engine with breakneck query speed

By Dan Richman

t sounds too good to be true a database engine that speeds most queries 10, 40 or even 500 times faster than conventional relational database management sys-

But it seems true nonetheless. Sybase, Inc.'s IQ, which began shipping in February, is turning out results that have impressed users and analysts

IQ doesn't do it all. It wasn't designed to compete with an RDRMS when used for on-line transaction processing and users said it falters with some types of queries. But overall for decision support, it is a breakthrough product.

"A very wide range of things that an RDBMS can do, IQ can do faster," said James McElhiney, a senior principal consultant at DisIntellect Technologies, a database application developer in Hull, Quebec.

This is an enormously size nificant product for data warehousing," said Herb Edelstein, president of Euclid Associates. a consultancy in Potomac, Md. Curt Monash, a New York consultant, said, "Sebase is out early with this technology and

has pushed it further than its competitors. IQ is blindingly How It's done

But IQ has eliminated that

limitation, users said. In addition to bit maps, IQ also uses Btree indexes, which excel at faster. Nineteen oueries ran finding specific records or ranges of records. The combiration of indexes, plus an optihad IQ achieves its speed by stor- miner that picks the right ing data in columns rather than scheme for the job. produces

tables. It uses an indexing tech-

nology called bit-mapping

IO's high performance "We foured anything other than what bit-mapped indexing where data is represented by a single digit rather than by a usually does would be slow in word or phrase Computers IO but we were pleasanth surprised at the performance" of can add columns of diges far certain database routines. faster than they can scan col-McElhiney said Dilntellect tested data similar to what its end users use and achieved speeds an average of 44 times

> 500 times faster. At worst, queries ran at half the speed they On the downside, IQ "wasn't Sybase, page 56



Book bytes: operating systems

 Unix Made Easy (second edition), by John Muster & Associstes; Osborne/McGraw-HIII,

\$34.95. This is a simple guide that even novice Unix overs should be able to follow It spells out, in English, how to log on to Unix, edit with vi, cre are and change Unix director ries, and access help. More complex topics are covered as well, including electronic mail and manipulating data with

Great for natures

Berkeley, Calif.: 1,000 00005.

Solaris 2 x: Internals and Ar-

chifecture, by john R. Graham, McGraw Hill, Inc., New York:

ece Kit: The latest on NT features

222 pages, Sap with disk. The book's title may be a bit misleading, because this reference work actually describes Solaris 5 z — which Sun has renamed? v The book deumbes Solaris' major subsys-

tems, including basic kernel operation and the implementation of virtual memory, paging and swapping. Three chapters are devoted to Sun's threads

model. The 3%-in, disk con-Book bytes, page 58

Win 95 apps are hot sellers 36.7% to \$717 million into the retail channel.

By Lisa Picarille Just four months after the intro-

tions for the 33-bit operating system became the second best-selling type of PC soft-According to the Software Publishers Association (SPA). a trade group in Washington, Windows 95, applications garnerted 12.4% of all North American software sales in 1995, desoite being on the market for

only part of the year.

duction of Windows 95, applica-

Total software revenue for the U.S. and Canada for 1995 erry 12% to \$7.53 billion, comnered with S6.7 billion for 1994. Unit sales increased 60% in that time period.

Ups and downs Meanwhile, software revenu for the fourth quarter of 1995 was \$2.07 billion, down 8.8% from the record \$2.27 billion posted in the fourth quarter of 1004 Housener meit soles weer up 35% over the year earlier quarter.

The SPA attributed the downturn to a dramatic decline in the price of software and to a new mix of distribution arrangements, including software bundled with PCs, direct sales, corpo rate licenses and sales

This probably reflects more cautious buying patterns from the channel," said left Tarter.

edisor of "Softietter," a newsletter in Watertown, Mass. "Last sorul information managers year dealers were really action like pigs at a trough. They were putting

everything they could out on the shelves, but they ended up selling relatively little." Windows appl cations still led the tack. But while

reserve for Windows applications rose 27.3% in 1995 to \$5.7 hillion (and accounted for 75% of all software sold), sales of Windows software declined by

3.4% in the fourth quarter Sales of Macintosh software in 1995 fell 13.9% to \$1.05 billion. and sales of DOS ap-



In the Windows market, including Windows 95 applications, the biggest percentage changes were in sales of per-

(PIM). zná tools PIM sales increased 50.1% to \$204 million thanks to Win

dows 95, and languages and tools sales rose 61.5% to \$231.6 million Sales in all cat egories of Win-

dows software increased. Word processors and spreadsheets remain the bread and butter of the Windows environment.

> On the Macintosh platform, the biggest increase was project management applications, up 19.7%. Languages and tools saw a 41.9% decline The only DOS software

category that posted gains for 1995 was entertain ment; it rose 58.2% The most dramatic drop

in sales was an 84.6% decrease in presentation graphics sales, which accounted for only \$1.5 million in 1995 DOS reve-

New Products

CyberMedia, Inc. has introduced First Aid 95 Deluxe, a Windows fix-it kit. According to the Santa Monica, Calif. company. First Aid 95 Deluxe intercepts crashes, gives warnings before trouble strikes and automatically fixes software configuration problems and conflicts.

The product will let users get the latest rirus and software updates from the World Wide Web. To use this feature, a user clicks on an icon, which faunches his Web brows-

er, dials his modem and connects him to CyberMedia's Web wever The software checks to see if the user needs the latest updates, downloads them, unpacks the file and installs the updates in the correct directories on the user's ma-

First Aid 95 Deluxe costs 860 CyberMedia (310) 581-4700

Yerox Corp. in Stamford, Corp., has unweiled optical character recognition (OCR) software that lets users scan paper documents on to World Wide Web pages. TextBridge Pro 96 includes a Hypertext

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from a paper document to HTML. That bypasses the oced to manually reenter data for inclusion on Web pages. TextBridge Pro 96 costs \$260.

> Xeros (203) 968-3000

Westbrook Technologies, Inc. has intro-duced File Magic Plus 4.2, document management softwar According to the Braziford, Conn., com-

Markup Language (HTML) editor that allows users to quickly transfer information pany, File Magic Plus 4.2 lets users organize information so that it can be filed, found, retrieved, revised, annotated, forwarded, printed, mailed and refiled. Users can being World Wide Web pages in to File Magic Plus 4.2 and replicate database

> File Magic Plus 42 includes Dynan Data Exchange and OLE capabilities for communication with custom front ends with Windows applications.

> Pricing for File Magic Plus 4.2 starts at \$2,000

► Westbrook Technologies (203) 399-7111

Alladin Systems, Inc. has introduced Stuffit Deluxe 4.0, a software compression package.

According to the Watsonville, Calif., compuny, this latest version has faster compres sion and expansion features, Internet support and improved electronic-mail supnort. It features a browser that lets users create, examine and modify archives without leaving the Finder application. Clicking an archive displays the contents in a new window. To stuff a file in an archive, users drag it on to an open archive window; to un-

stuff a file from an archive, users drug the file on to the desktop. Stuffit Deluxe 4.0 includes DropStuff. which creates Stuffit self-extracting archives and can encode archives for distri-

bution over the Internet. Stuffit Deluxe 4.0 costs \$130. Alladin Systems

(408) 761-6200

Microster Software Ltd. in Nepean, Ontario, has announced Near & Far Author, a graphical authoring add-on for Microsoft Corp.'s Word. The product uses a graphical docum

model to act as a document structure guide. This lets writers create structured andard Generalized Markup Language (SGML) documents within Word. It also lets users import, export, format

and print SGML documents Near & Far Author costs \$249. Microster Software

(613) 596-2233

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Vougrese takes the bate out of your database connectivity problems From development through deployment. Vingenic's ODBC solutions tear through connectivity barriers. Non-you can capture true database independence across Windows, UNIX, 08/2 and Maranosh platforms

Visagenic has earned in stripes as the number one industry expert in database connectivity It currently provides ODBC solutions to major industry leaders, Hewlen-Packard. Informix, Microsoft, Oracle, And many more.

OBBC BriverSet

Visegenie ODBI, drivers give you the high-speed link ferwen your ODBC-enabled applications and the usest popular SQL databases. The Visurenic ODBC DriverSet is composed of driver, includ-

me CA-Incres, IBM DR2. laformis, Microsoft SQL Server, Oracle, Sybase DBLab. and Sybase System 10



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Every week, Sedgwick loads the latest casualty claims due from the nation's leading insurance carriers into a PO/CUS deathers resident on an SSG000 distributed network. The deathers in them accessed via the PhysiCo wide area network by more data fifty deathors and remote laptons extend by the control of the Common of the C

and business analysts with transparent data access from a variety of hardware/software configurations.

The INFORM risk management system combines the numbers crunching power of PCCUS with the graphical marbyiss capabilities of PCCUSIS for Windows. The result... PepsiCo managers at all levels can pirropint critical trends, drill-down for decided back-up information, identify tootential problems, and plan intelligently to minimize risks

and maximize profits.

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Post-it notes move from desk to PC

tie that string on your finger Call off the frantic search for scrap paper and pen. 3M has sent Post-it Software Notes to your

"I used to have the yellow paper Post-it notes stuck all around my and the latest emergency just went on

top of the others," nancial analyst in isville, Ky. Using Software otes, Potter is now able to type electronic notes to himself, group the notes on memo boards. reate to-do lists.

'For a reminder, you search through his can't beat this little notes and set re-

scrap of paper It all comes in a \$20 package The Post-it Note dispenser is al

ways in view on the desktop screen. To write a note, users click on the notepad, type a short age and place the note anywhere on the screen. Notes on a common topic can

be pasted together on customizable hoards. There iso't any

ther product out there like this," said Abbiert Rane, an lyst at IDC/Link in New York. "It's very user-triendly. always sitting on the the alarm function, setting it to redesktop and keeping peat on the same day every month to remind him of depart

the potes on the screen until you choose to do some.

thing with them." Even if the PC is turned off, any notes left on the screen will reappear when it

Daisy Wong, a doctoral student in computer science at the University of Alabama at Birmingham. ness the Post-it built-in timer and alarm functions to put together todo lists and reminders. I have Microsoft Office Pro that has a scheduler application, but I use Post-its instead. It's so easy and

transparent and doesn't get in my way." Wong said. Howard Vale anager at the University of Ala-

ment meetings. For a rest

OF APD-combama Health Services Foundation, has 200 Post-it poles stored on his deaktop. He also uses the electronic Post-its instead of timement tools, Valentine uses

this little softjot down s quick Post-it Note and send it to a col-

th shi's Post & Note software, users type a mes

Married and Charles in Street or it

dant electron sage and place the note anywhere on the screen or forward as entire document with a no

opie make littie ferent colored when she leaves, she puts one pa-per Post-it on her keyboard. It says, "To leave me a note: notes; it's evolved into a type of groupware for us," Wong said.

Melinsa Tao, a notiware analyst
at Lewson Software, Inc. in Minclick on the icon, begin typing Thanks." olis, grew tired of returning

from lanch and finding a sheaf of vellow sticky notes on her desk so she decided to do away with the paper version entirely. Now

Sybase tool speeds queries

CONTINUED FROM PAGE 53 so happy with three or more sub-

will easily handle one or two he added Other users report Detabases

We had one complex decisionsupport query ... that we called The Stinker," said a database specialist at a financial services ny in Cincinnati. "It took an hour to run on an RDBMS. With IQ, it took one minute. I don't see a reason why we shouldn't move Scott F. Barnes, a senior man

ager at MCI Telecom selects" and choked when han-ding them, McElhiney said. But it improve its telemarketing efforts by silting through lists of prospective custom ers quickly. "It would have taken us there days to do what IQ does in five minutes, so we simply didn't both-

er," he said. Edelstein said the only other DBMS on the market that is suited especially for data warehousing is Red Brick Warehouse from Red Brick Systems, Inc. in Los Gatos, Calif. our entire decision-support data-

SoftWindows bridges Macintosh, Win 95 By Lina Picarille

TurboStart for quickly starting the Windows 95 operating system on the Macintosh. It also supports major networking protocols in-cluding TCP/IP, Novell, Inc.'s Users can now run Windows 95

applications on their Power Mac-NetWare, IBM's LAN Mana Macintooh, from Santa Clara, Cald-based Insignia Solutions, Inc., is the first software to give customers the best of both Banyan Systems, Inc.'s Vines and Digital Equipment Corp.'s Path-works. SoftWindows 95 works with all Windows 95 software and worlds. SoftWindows 95 is the fol-low-up to SoftWindows 2.0, which lets users of Apple Computer. is available for an esti price of \$349 to \$379.

One user said the program runs Windows 95 applications on the Macintosh at speeds comparable to a 66-MHz 486-based ma-

chine running Windows 95. Nurigue for WinFrame, which at lows PC users to run Windows ap plications remotely over the In pet or an intranet. It is availa for \$1,000 for a five-user lice

Inc.'s Macintosh run Microsoft Corn.'s Windows 3.x applications. E-mail enabler You couldn't pry the Macs out of

SoftWindows 95 for Pr

our hands," said Gary Hutches supervisor of design services at the Plainfield, Ind., branch of Cinergy Corp. The Cincinnati-based etric and gas utility has about 25 Macintoshes and several thou sand PCs running Windows 96. We can now exchange E-mail

with the rest of the com using the Windows version of Microsoft Exchange running on the Mac." Hutcheson said. "We can open files created with Windows ons. And the networking support is really good, so we can have Macs talking to NT servers using SoftWindows 95."

SoftWindows 95 lets : cess Macintosh and PC SCSI de-vices and offers enhanced printer, networking and sound support The program bundles Insigni

of client/ server ns. The

DCE 121.v on DCE 122

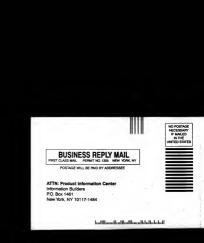
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Book bytes: operating systems

CONTINUED FROM PAGE 53

ection of script examples and make files

Unix System V Release 4: An Introduct vised), by Kenneth H. Roson, et al; borne/McGrow-HIR, Berkeley, Calif.; 1,240 pages; 599.95. This ill at AT&T Bell Lab ries, covers just about

maginable. Chapters inchide the shell; editin and formatting test; different flavors of Unix including Linux and HP-UX; Unix pols including awk and pert the X Winds tem; system administration; and explor-

ing the Internet. Not for pure beginners, OS/2 Power User's Reference (from OS/2 2.0 through Worp), by Mark T. Chapmen; McGraw-Hill, Inc., New York; 476 pages; San 95 with CD-ROM. This is an excy-to-fol

low book for OS/2 users, from novices who need the basics explained (the differences between OS/2 for Windows and OS/2 "fullpack") to experts who'll appreciate tips on multimedia device drivers, PCMCIA sup port and the OS/2 Bonus Pair. Appendice list OS/2 information sources from trade subs to bulletin boards and user groups. The CD-ROM includes device drivers, con dity tables, foots, games, sounds and

Windows NT a Windows NT 3.5 Guidelines for Security.

Andit and Control, Microsoft Press, Red d, Wash.; 286 pages; Sep.95. This

book grew out of a 10-person research tram from Citibank, Coopers & Lybrand and Microsoft. It spends some time talking about general security issues - the corpo-

rate security structure, management vs. user roles, different types of audits and so on. Theo it delves into specifics about NT secu rity features and how to audit NT. Appendices list wearity-related commands, default diand data structures; one

sted baseline security and

audit matrix.

Microsoft Windows NT Resource Kit (updated for NT Version 3.51); Microso Press, Redmond, Wash.; 330 pages; \$39.95 with CD-ROM. This is meant for programmers, project managers and support staffers who need to know the latest about NT's latest features. The CD-ROM includes utilities, updates of tools and accessories from

the previous version of NT and support for the PowerPC. The book describes NT's features and then how to roll out the operating system, including planning and doing a

Free Staff for Windows 95, by Patrick Vin-

cent, The Coriolis Group , Scottsdale, Adz.; 525 pages; \$24,99 with CD-ROM. This is a ook that's both fun and useful. It's packed with tips for getting free stuff from the 'net and the Web -- everything from screen shots of TV's Friends stars to how to down load McAffee's \$65 virus scanner for noth

ing. There's s hardware-compatibility list for what Win 95 supports natively (pre-ServicePak), and s list of worldwide internet service providers. The CD-ROM has lots of next stuff on it as well, including applications and utilities.

p Programming the Windows 95 User Inter-face, by Nancy Wenick Clubs; Microsoft Press, Redmond, Wash.; 408 pages; 534-95 need to write applications that play well

with Win 95. The book goes through all the new features incorporated into the Win 95 user interface and then talks about how to deal with each of them - adding tool bars. status bars and dialog boxes; supporting long file names, and creating file viewers. Especially valuable for the corporate developer is how to port code from C to the Micreate Foundation Class Library and vice versa. The CD-ROM includes sample source code for all of the above.

- Johanna Ami

Briefs

DEC bundles BackOffice

New Products

meth products run under we 3.1, Wasdows 95 and NT (Raims's database year in database year

ich Corp. has introduced Q-Supnort 4.0. belo desk sutomation and asset

management software. According to the Wilmington, Mass. company, Q-Support runs under Microsoft Corp.'s Windows and Windows 95. It logs, routes and tracks help desk calls, provides ors performance inventory control, mon levels and accesses third-party knowledge

The latest version uses electronic mail or pagers to alert the support center to out standing calls that may be in danger of un satisfactory resolution. It also notifies users if a call is related to one previously logged in its database. Users can review related

calls or cancel a call to avoid duplication Pricing for Q-Support 4.0 starts at \$6,500 for a three-user license.

▶ Detawatck (508) 988-9700

Smart Storage, Inc. has anno SmartCD Archive for Microsoft Corp. Win-According to the Andower, Mass., cor

ny, SmartCD Archive runs on any Win down NT Server and provides transparen access to data stored on CDs. It was designed to provide CD drive, tower and jukeher support with multitieved each With SmartCD Archive, all CDs in the system can be viewed through one source The software works with all standard app cations. Pricing starts at \$600 and is based on specific devices in the 'CD storage Smart Stor

(508) 623-3300

Virtual Reality Laboratories, Inc. in San Luis Obispo, Calif., has utivelled Form-The software runs on Microsoft Corp.

Windows 3.1, Windows 95 and Windows NT and lets users scan, fax or import any er or electronic form into their PC They can then fill out the form and print or fax the results. Information can be pulled into the form from any database using SQL. FormWigard requires an Intel Corp 1486-based system with 8M bytes of RAM It costs \$60.

Virtual Reality Laboratories (805) 545-8515

Product short

Norman Data Defense Systems, Inc. in Fairfax, Va., announced Blockit and BIAS, sktop and workgroup security software. Slockit is an entry-level access control product that protects systems from direct attack. BIAS is a centralized system admin-istration tool that sugments Blockit. They feature encryption, file permissions con-trol, password lock and a single network logon. Pricing for Blocklt starts at \$150; BIAS starts at \$275. Norman Data Defense stems, (703) 573-8802.

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ground with Optima++ offers cross-platform support

By Howard Miliman

To overcome C++'s reputed complexity. Powersoft Corp.'s forthcoming tool set, Optima++, unites C++ code with an object nent-generating system and a drag-

and-drop visual environme Powersoft positions the product to serve the middle ground between traditional third-generation language C++ develop-ment suites and fourth-generation language tool sets such as Microsoft Corp.'s Visual Basic, Borland International, Inc's

Delphi and Powersoft's PowerBuilder. Optima--- automates code generation and es sentially eliminates all user-interface and

But when you make the transition from a traditional C++ tool to an integrated development environment, you risk forgoing control for convenience To create our application, we followed a simple three-part process. We designed a user interface, specified properties and added code that dictated how the applica-

To define classes in our project, we clicked on a name in the Reference Card window, dropped the objects on to the user interfaform and let the program generate the code. Optims++'s Reference Card, a cleverly disguised interactive help system, uses Windows 95's hierarchical tree display to list the actions you can perform on user

objects using drug-and-drop editing

values, composed the corresponding C++

If you want greater control, you can over

version, you can add — but not creste classes for OLE controls to the palette. Other features worthy of high marks include Optima++'s slick debugger. It provides runtime windows that display registers, threads and even memory segment Deving our tests, we noticed that our late

beta version was slow. Powersoft promises to correct the performance problem before the scheduled mid-May release date. Because the software uses Watcom C++'s fast compiler, we expect the overall performance of the shipping wersion to be Optima++'s finished applications can be

dealowed as stand-alone .EXE programs or Powersoft's Optima++, C++'s new look

ersoft Corp. (s division of Sybase, Inc.)

Concest Mass m) sec-seze A drag-and-drop rapid applicat

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Grade: B-

opment environment that automatically generates C++ code: Pricing: Developer edition, \$199 until July: \$400 thereafter. Professional Edition, Sooo, Enterprise Edition.

interface objects. Optime++'s Parameter as compact EXE programs with runtime Dynamic Link Libraries. Executables run on Microsott's Windows 95, Windows NT and - with op tional Win32 support - Windows

3.1. Powersoft assesses on runtime charges. I advise monitoring Optima++'s memory swap file during the heild because it can grow to 20M bytes. Developer stations should be equipped with at least 16M bytes of RAM.

Powersoft's Professional and Enterprise editions, which are due for third-quarter release, will Optims++'s ability to integrale OLE controls atinclude a Java development calows developers to manage native and embedded pability, support for Microsoft ActiveX controls and browser plug in today

Wigard next prompted us for the required Powersoft promises to provide printed and on-line documentation. The bets mancode fragment and pasted it into our appliual contained well-focused chapters designed for novice programmers, experi enced C programmers - but new to C++ride the automatic generation feature, click and C developers who are programming for on the editor and directly enter the re-Windows 95 or NT.

outred C++ code to connect a component to Millman, brand in Croton, N.Y., operates the You can also drag prebuilt visual compo-Data System Services Grown, a networking and nents into piace or use OLE components roblem-solving consultancy. He can be reached

from third-party vendors. In the Developer COMPUTERWORLD APRIL 15, 1996 (http://www.computer

Powersoft serves middle | IBM's VisualAge for C++

By Stee Petracci

IRM's VisualAge for C++ for Windows is a late entry in the field of Windows develop ment tools and shows the rough interface edges typical of first-generation tools. But this ambitious first effort supports serious cross-platform work, and the problems should be fixed over tim

As first plance, I wondered if we needed another C or C++ compiler for Winds but VisualAge is different enough to justify its presence. Don't be tempted to compare it with Microsoft Corp.'s Visual C++ or other Windows development tools. Visual

is a more complete development tool. VisualAge's Program Smarts composent can be used by developers who are starti from scratch or those who want winard-like shortcuts. There is also a rapid application development (RAD) tool called the Visual

Application Builder The tool also provides Open Class, s

more complete class library than Microsoft Foundation Classes (MFC). Open Class enables a wide range of target platforms not just the Windows variants but b doesn't support MPC. VisualAge offers native so for a wide range of databases, in-

cluding IBM's DB2, Sybase's SQL Server and Oracle's product, as well as support for Open Data base Connectivity. Compos documents also are supported in the form of OLE and OpenDoc, which is unusual. And enterprise

wide development is sur via IBM's SOM and DSOM and the Object Management Group's Common Object Recorst Broker Architecture, which is also

The price of doing all these things is a lack of polish. The challenge IBM faces isn't that different from what Microsoft ran into with Visual C++; the need for many product cycles to perfect its es

Start me up Here's some advice for starting up Visu Age: Get another hard disk. A typical in:

ires 370M bytes of disk spo Also, the flickering background of the installation process annoyed me. The custo

IBM VisualAge for C++ for Windows 3.5 http://www.lbm.com

e price: Sago

Pres: Widest cross-platform, com pound file and database support Come: Version 1.0 Syndrome — It detect interface and slow, and It esn't support MFC

missible editor that comes with VisualAge has more editor emulations than I have ev-

er seen before. The VisualAge project window, Work-Frame, was consistent with other Windows development tools, but there was too much white space. And there is an inconsistent use of tool tips and right clicks and far too

uch use of the Windows system font But these are minor quibbles. The Visa polication Builder, s front end to the IBM Open Class Library, is a powerful develop create applications. I don't think most Windown programmers will need it, but it has a purpose in corporate and IS development sites where products need to be created quickly and run on many platforms

There are various wizard-like Build Smarts for creating 13 types of projects, for example, Visual Builder, Data Access and Compound Document Francework.

I created a container OLE application



with the Compound Document Frame work. This was quite easy, but I discovered that the VisualAge build process is a bit slow — the compile and link speeds are no match for the blazingly fast Symantec C++ product. Those familiar with the code needed to produce an empty OLE container application in MFC will be shocked to see only two small C++ source files in the Open

The resulting code for creating s com piete OLE container application was much Ber than that created by MFC, I was maner man that creases by MFC. I was quickly able to open multiple documents and include various OLE objects such as sound, bitmaps and Microsoft Word docu-ments and save them to disk.

VisualAge allows multifaceted develop-ment. It supports many middle and high-end platforms including Microsoft's Winows 95, Windows NT, Windows 3.1 un Win32s: IBM's OS/2, ADX, 'MVS and OS/400; and Sun's Solaris. And count on fu-ture support for Hewleti-Packard's HP-UX and Apple's Power Macintosh.

rucel is president of latelliware in Bellevot Wash., which develops multimedia PC and Web used applications. He is the author of the book Cross-Platform Power Tools



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Help utilities point the way for common network tasks

By Laura DiDio

he next release of Microsoft Corp.'s Windows NT Server will include help utilities that will let technically unsawy ork administrators

The eight Wigned utilities will be included as part of the base Windows NT Server 4.0 network operating system when it ships this summer, said

Mike Nash, Microsoft's group The Wizards are in dialog boxes. Network administrators uply click on a set of plain English prompts and are guided ough the most frequently used processes such as addit

users to the network and installing and configuring printers and Users and analysts familiar with the Warards said they could make Windows NT Server the easiest network operating

system to configure and use. "Microsoff's entire thrust is

mass market (network operating system] that's a no-brainer to set up and install for even the most technically challenged ad-ministrator," said Ilm Greene. an analyst at Summit Strategies. Inc., a consultancy in Boston.

Greene added that while

the first version of the NT Server Wigards in 4.0 won't be 's total nenaces," the Wipards will go a long Network way toward more fuloperating ly automating routine systems speeding up the in-

stallation process — especially in large organizations with multiple file servers.

Easy install
"The Wizards are another brick
in the wall to help Microsoft achieve its long-term aim of building a (network operating system) that doesn't require extensive setup - it's the anti-Unix," Greene said.

Users such as Gary Campbell, a senior staff engineer at Perkin-Elmer Corp., a manufacturer of scientific analytical equipment in Wilton, Conn., said the Wizard stillities would the mystery out of network operating system installation. "NetWare is our main for ing system) right now, and it has all the mystique of the glasshouse mainframe," Campbell said. "With the Warards, anyone can be an instant network adstrator, with the ability to add new users, devices and ap-

plications to servers and work stations. You won't have to call in the [Certified NetWare Engineerl carairy. That's a very big Perkin-Elmer doesn't plan to

abandon its commitment to No-vell, Inc.'s NetWare as its chief

operating system Campbell said But he said the addition of Winard stillties could tip the scales in Microsoft's favor for users who don't have a big estment in Novell and

are trying to decide between NetWare and Windows NT Joseph Murphy, assista vice president of field operations at Commercial Union Insurance Cos. in Boston, agreed. He said he is familiar with the end-user-oriented Warard help

and: Automatically installs and configures

moe Wirani: Helps track the number of licens d on the network and ensures software lice

utilities that Microsoft has al- very costly in terms of lost pro-

ready incorporated into Winductivity for end users, not to down 95. mention the time and expense "I'm pleased that Microsoft is of sending administrators to reextending the Wisseds to include more advanced functions NT Server 4.0 is slated for in the NT Server (petwork oper-

beta testing this month. Besides the Wizards, Wiadows NT Server 4.0 also will include the long awaited Windows 95 user inter face and improved Internet

IBM wants to drive management standards

By Patrick Dryden BM's road map for combining its

ment software with that ni its new acquisition. Twoli Systems, Inc., follows a standards oath that has tripped up others. But if the two can garner industry support, interoperability among the various types of management tools could result.

Earlier this month. Treeli and its new owner unveiled a strategy for merging IBM's SystemView with Tivoli's Tivoli Management Environment (TME). The strategy promises extensive support through standards, not individual partnerships. The goal in to ex-tend third-party support for TME meth 10, the blend of SystemView and welop spe Tivoli's products that will ship next

to make Windows NT Server a be a welcome time-saver for

month - further and faster than is normally the case in the management software market. Traditionally, plat form vendors have

garnered support for their environments one tool at a od, using partnerships to de-specific modules for TME to help users manage vital network devices, servers, applications and funcfines such as security or a help desk. Analysts said the IBM/Tivoli strategy

could change the

try, by letting users mix and match their time, partnering with key tool favorite platforms and tools. Usvendors according to user de-mand. Before IBM bought it in eting tool, for example, and would

work monitoring and alerting The plan has three phases: Define management interfaces within a small group of vendors, for-

ating system). They can poten-

tially avert a lot of administra-

tive headaches," Murphy said.

"When network operating sys-tem arturn don't so well, it's

maline a specification that isn't unique to the TME 10 platformand publish all specifications so anyone can implement them.
"This sounds like a good approach, to provide interfaces for all vendors to work with them," said Mitch Hull, director of soft ware development and support at Florida Power Corp. in St. Peters-burg. "Following through with

s commitment would show that

the world.

IBM focused on linking its own tools and platforms through the broad SystemView effort and nev-er succeeded in attracting partpers that users wasted, said Tim Wilson, a management analyst at Decisys, Inc., a network consultancy in Sterling, Va. This could change the whole

olstform battle" in which users must try to integrate preferred tools through noe network or sys terns management platform, Wil-son said. "IBM is setting its sights higher this time, acknowledg

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rements the company said

connectivity capabilities and other

schedule.

By Mindy Blodgett

Motorola, Inc. has updated its Envoy Wireless Communicator with significantly add to the device's

forctions

asked if there is a real market for the device

Motorola's Envoy 150 Wireless Communicator gives users access to Microsoft Corp.'s Mail and Lotus Development Corp.'s CC:Mail through software from the River

wich, Conn., and IntelliLink Corp. in Nashua, N.H. It also uses holo graphic technology to create the imperssion of a backlit screen, which is easier to read The 1.7-pound handheld device also festures General Magic, Inc's Marie Can 1.5 operati

system, which has faster start-up times and better performance and memory management. Current Envoy users can upgrade for "It remains to be seen whether

people have a real need for the Envoy," said Philip Redman, an analyst at The Yankee Group in Motorola won't release any

market numbers, but Redman estimated the company has sold only 25,000 Envoys since their release last year

Despite the changes to Envoy, it was what Motorola didn't do that concerned one user. Cliff Hurst, president of Career Imnect. Inc. in Wells, Maine, said it costs too much for the ARDIS wireless messaging service Envoy uses. Motoroin owns ARDIS Co.

Hurst said ARDIS costs him about \$50 to \$60 per month. phones with data communications

ess to Microsoft Me

lities such as paging, E-mail And he said ARDIS coverage could be better. Hurst uses Envoy and fax - were the talk of the recent Cellular Telecommun to track his electronic mail and tions Industry Association conference in Dallas, according to "I conduct a lot of workshops, so it wouldn't do to have a beeper go off or a cellular phone," Hurst Timothy Schmidt, an analyst at Encore Consulting Group, Inc. in Altumente Springs, Fla.

said. With Envey, "I can stop and check what is going on back at the office periodically," he said. "Conceivably, folks will be getting rid of their pagers and their cell phones and using just one device for both functions," Schmidt nart phones on the way

In other news, industry observers For instance, Schmidt said Mitsaid smart phones may advance the wireless data market. Observ-ers said smart phones may sucsubishi Wireless Communicato release a phone called the Mocred where personal digital assisbile Access later this year. The detants such as Envoy have so far vice will give users wireless later Smart phones - cellular tele net access, two-way paging and voice capabilities.

IBM management standards CONTINUED FROM PAGE 67

that users have multiple platforms and applications." A working group already has

tems management competitors. defined an application manage ment specification. This vendor-IBM/Twoli to define common inneutral interface will be adopted by Compuware Corp. for its systems management tools and those IRM and Throli, IRM said. Tivoli and SunSoft, Inc. last onth launched a working group

terfaces or follow through to make products work together, Witness said But, according to Tivoù offtalks are under way with Hewlett-Packard Co., whose OpenView framework leads the network management market.

More direct network and sys-

ever, might not sit down with

ing Internet access.

to define an interface for manag-

M Led., Informix Corp., Dracle Corp., Sybana, Inc. and

th with SunSoft, Inc. to di

ant subsystems.

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The Enterprise Network

BGS Systems, Inc. has introduced Best/1-Visualizer for Windows NT, a perent/analysis system. According to the Waltham, Mass., company, the product gathers and analyzes data for networked Windows NT servers, worktions, applications and networks. It is-

cuses on applications and workloads for a top-down view of networked NT client/ server performance

Best/1-Visualizer for Windows NT continuously identifies impending bottlenecks. poor response times and utilization issues. It was designed to determine whether server performance can be improved, whether upgrades and add-ons are justified, whether software has changed network performance and how processors have improved Gent/server response time Pricing starts at \$4,750. ► BGS Systems (617) 891-0000

Rad Network Devices, Inc. has an nounced OG-C2, a two-slot modular router

According to the Costa Mesa, Calif. company, OG-C2 can use any combination of Rad Network's OpenGate communica-

tions modules for Ethernet, Token Ring Fiber Distributed Data Interface or widearea networks. It can be used with router access nodes at remote sites to connect up

to eight remote offices Pricing for an eight-port WAN configur tion starts at \$9,900.

Rad Network Devices
.(714) 436-9700

nameNet Lad. has introduced Cane, a Windows NT-based tool for network de signers, systems integrators and network

Cane is a graphic, object-oriented, inter-active network engineering tool for designactive network engineering tool to design ing, installing and maintaining networks. According to the Wellesley, Mass., company, it lets designers build a model of the network to evaluate the validity of network design and simulate its performance. It supports the entire network life cycle, from definition of end-user requirements to ven-dor-specific configuration, including devices, workstations and applications. Cane is an integrated set of Windows NT

applications that includes a database with communications software tools, network on and a network product component library. It has tools for troubleshoot ing, documenting the network and evaluating changes.

Pricing starts at \$4,995. ► ImageNet (617) 220.8102

Voon, Inc. has unweiled LanPoint, an up grade to its Armada Cruiser line of desktop seoconferencing products. According to the Dallas company, Lan-

Point lets users perform PC-based videoconferencing over LANs that run the TCP/IP protocol. Users of Armada Cruiser products can now make video calls and per-form collaborative functions including file transfer, electronic whiteboarding and realime application sharing over LANs. Voon plans to add support for the H.323

standard for LAN-based videoconference ing. LanPoint costs \$99. ► Vcon

(214) 774-3890

Product short

Recel-Datacom, Inc. in Sunrise, Fla., has announced SaleDial V.34, a PC card designed to provide secure data communications and remote LAN access over public and private telephone networks. It combines Racal Datacom's security encryption pology with a V.34 modern in a stan dard PC card format. Pricing starts at \$695 Racal-Datacom, (305) 846-1601.



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Rethink those links

Linking databases to Web is tough, costly

By Kim S. Nash

inking World Wide Web servers to corporate data bases can be a royal pain, partly because there is no single way to do it. The high price of siting a database behind a Web application also has deterred

But making a Web/database con tion is often necessary for many intranet systems, such as simple telephone direc-tories or more complicated customer service applications. Some external Internet olications — order taking, package cking — couldn't exist without Web/

Fortunately, some creative information ratems groups have found ways around ne high price and high tension.

Options are available One of the more popular ways to connect

stabases to Web servers, such as those from Netscape Communications Corp. or Onen Market Corp., is to write connector code manually with Common Gateway Interface (CGD) scripts.

But running lots of CGI scripts at high traffic sites can slow response time. A direct connection that cuts out the CGI middleman is faster, said Jean Anderson, edent Web and database consultant in San Diego.

nd the acenes. nicate directly with databases, more will have that capability soon, Anderson prodicted. Users also can buy third-party packages to translate HTML to SQL or other database systax (see chart).

For example, America Online, Inc.'s GNNserver can talk directly to Illustra In-formation Technologies, Inc.'s object data

base. Illustra programmers can embed SQL the language understood by relational databases, in Hypertext Markup Language (HTML) documents. One scenario in which that would matter is on-line shopping. Orders placed by Internet users



net, LAN-based E-mail headed to common ground

By Tim Ouellette

Simple Internet electronic m may be winning the battle for some users' hearts, but LAN-based mes saging systems could well win the war for business desktops

Analysts expect vendors of propri-etary LAN-based messaging systems and makers of inexpensive and easy-to-use internet mail packages to bet-tle for a middle ground. That's where users will get fast and open internet mail with the management featurer and other extras usually found in the

"We are trying to get away from the three or four in-boxes on one desictop. It creates a major technical support issue," said Anthony Citra-no, information systems director for the state of Maine. Citraso said some users have a mix of Internet mail, such as Quaicomm. Inc.'s Eudors. and LAN-based systems, include Lotus Development Corp.'s CC:Mnii But the state seeks to standardise or common mail platform.

Users such as Citrano are the tar gets of Internet mail provide which are trying to add features beyoud E-mail to their packages. At the same time, LAN-based vendors such as Lotus, Microsoft Corp. and Novell as LOUIS, MICROSOFT COPE, and POWER
Linc. are adding support for Internet
messaging standards such as Simple
Message Transfer Protocol/Multipurpose Internet Mail Extension and

Post Office Protocol 3.

It is a matter of who gets there sconer," said Eric Brown, an analysi at Forrester Research, Inc. in Cam-bridge, Mass. Because vendors can E-mail, page 78





You think you know HP products.
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air product line are there to keep
your options open. Everything we
to is designed for modularity, and
well.

d se would you expect?

of speck visit



would be very attractive to compa

nies that do "Sanders said.

Ware server from intruders.

able Module by lute.

The Internet Junction software

which mas on Windows NT will

be available as a NetWare Load-

Ciaco Systems, Inc. is trying to broaden the ranks of the Internet eligible by providing one-stop

shopping for laternet wares. The San Jose, Calif., router and ewitch vendor recently outlined its Internet strategy and related products in what users and ana lysts said is by far the most complete laternet product line to date from an internetworking com-

We've been working on our Internet effort for about three years now and haven't seen this broad an array of flexible Internet products yet," said Blair Sanders, a senior member of the technical staff at Texas Instruments, Inc. in

Plane Texas Sanders said TI would welcome the chance to go to one vendor for its Internet needs, particularly after the company spent three years

foding what it needed to piece together a World Wide Web page Cisco's one-stop-shopping strateav stems from its acquisition of there Internet products wenders:

Internet Junction, Inc., Network Translation, Inc. and TGV Sediuser Inc. (see box at right). Amabusta said Cisco has an each lead in this market.

Briefs

From HTML to 3270

es to IBM maintre

ed minicomputers. Corri or translates the Web's

al emulation formst. It s \$2,750 for 15 users.

s can test the product,

Cisco's recent Internet product announcements internet junction Links NetWare LANS (starting price) Address translation (starting price) Evenly distributes calls to a home page among released

The market is wide open, and Cisco is addressing more areas than its outside competitors," said Daniel Briere, president of Tele-Choice, Inc., a consultancy in Veroos, N.J. Briere warned that other wendors are teaming up to offer users the same one-stop shopping

Cisco's strategy addresses the three biggest laternet issues: the shortage of IP addresses, lack of security and high traffic volume

Internet function's extresy prod uct eases configuration by letting clients run Novell Inc 's IPY orn

tocol stack to access the internet without having to add an IP stack on each machine "We don't have IPX traffic, but I can certainly see why this product.

Network Translations' Private Inusers full firewall security beand the Internet. It hides the law out of the internal network from

> entold thousands of users could potentially access, isn't feasible. Despite the discounts, price tors still are too high for many users, said Steve Waterbury, a computeraided engineering specialist at the National Aeronautics

and Space Administration in Greenbelt, Md. Waterbury is creating an engineering database for NASA employees, contractors and universi-

delivery reliability and management features, things that elode Internet markages.

as the vendors more toward more robust client/server systems that add even more groupware fea-E-mail packages

mated 29 million LAN-based and C million househoused E-mail repres an enticing upgrade path. * But makers of Interpet mail packages are beginning to focut

on Internet Messaging Access Protocol a new standard that will soldered their lack of management

tory of unregistered IP addresses and connect them through a gateway to devices with publicly regis terred IP addresses.

This gives information systems managers a way to give uoregistered users on a private internet access to devices on the public In-

Cisco's TGV Software makes LocalDirector and Distributed-Director, products that ease demand on Web servers. For example the Internet lunc-

LocalDirector views all the tion (PCAs.IP Cotumes could let 10 clients on a NetWare LAN servers that connect to a router as share the gateway's single IP. This a single entity. It tracks sessions obviates wasting addresses for and server load and directs calls clients that don't use the internet to the least busy server on the heavily and also shields the Net-

The software uses a special algorithm that monitors server ads without incurring any over head. It runs on any Intel Corp. Pentium platform with a Peripheral Component Interconnect bus.

DistributedDirector spreads calls among geographically dispersed server sites, it also calls ternet Exchange (PDO) gives and monitors server load to determine the best server for each incoming call. This helps balance call loads among multiple

\$100,000, Waterbury said.

Revolutionary Soft

daring software

well-known - and far less expen-

sive - database called /Rdb from

Santa Cruz. Calif. For \$1.500.

On the way

Cisco currently offer the Cisco Web Server.

which has a Hypertext Markup Language front end and runs on Micron Corp.'s Windows 95 and ndows NT, Sun Micro systems, Inc.'s Solaris and

The company's plans for the rest of this year include the following: • Coco Cluster Ma

software that runs on each server and performs load balancing and replication across Web and file transfe col (FTP) servers. Manager, a product that in tegrates DNS/DHCP with

Browner Configuration.

• Cisco Server Saite, which includes Web Server, Cluster Manager, DNS/DHCP nager, FTP, Network Pile Service and Print ser vice. All initially will run or

Meanwhile, hig relational data

E-mail CONTINUED SHOW PAGE 25

move fast to develop their own standards, whereas laternet stanere Corp. in Minnes dards take time to develop. "I be-Forums, conferencing soft ware for the World Wide lieve Microsoft and Letus can do the Internet dance sooner than Internet may can get features and

manageability." Brown said. nets. Uners can create dis-The traditional LAN-based packages offer a variety of integrated features - electronic any programming. Anyo forms, workflows and group scheduling, for example — that ew of the forum let users do more than just read their E-mail. Users can count on

Waterbury got eight /Rdb server licenses, each of which allows an uslimited oumber of users. Database vendors must "reties. Most of the data already re-

sided in a Computer Associates think their Internet pricing be-International, Inc. Ingres data cause they have really missed the boat," said Steve Olson, technical base. But adding thousands of users to NASA's Ingres license director at Applied Information Technologies, loc., an applica would have cost roughly tions maker in Hanover, Md. lestead. NASA bought a less

He said Oracle recently quoted him \$80,395 for a database and Web server for a single-processor Unix machine, with public Internet access and technical support

vendors, in terms of comp capabilities [CW, April 1]. Ven dors also are purchasing features; for example, FTP Software, Inc. gateways and heterogeneity," it's no wonder many users are consid recently bought Campbell Serering the homogeneous envi ment of Internet standards, Ras vices, Inc. and gained the South-field, Mich., firm's group calen-

Either way, he agrees tha E-mail won't stand alone much longer. There is no question that E-mail as a separate function will disappear," Russer said. "E-mail will be embedded in the operating "The world has jumped out of system or the user's desktop of



Linking databases to Web is tough and costly

CONTINUED FROM PAGE 25.

base companies are starting to negotiate discounts with users who want to anchor Web applications Traditionally, Dracle Corp., Sy-

hase Inc. and others have charge ! a per-server fee and a per-user fee. Paying by the user for an Internet application, which

> These LAN E-mail packages also will receive overhauls this year.

res than before This gives the esti-

saging Association's LAN mes-"If you take a look at what we've had to endure from the Big Three

pect of being free

from vendor-

proprietary proto-

The Internet

New Products

NovaSoft Systems, Inc. has announced NovaWeb, an Internet gateway connection to its NovaManage document management

According to the Burlington, Mass. company, users can connect to the Nova-Web server and hower corrects doorment vaults with any World Wide Web browser. The product includes a series of Hypertext Markup Language search forms that let users identify desired docum by name, version and attributes, NovaWeb

gives users access to documents for which they are suthorized Pricing for NovaWeb will be as April 15

NovaSoft Systems (617) 221-0300

InfoStreet, Inc. has announced Instant Web Sites, a World Wide Web site service. According to the Los Angeles company Instant Web Sites lets individuals and organizations put up a Web page by filling out a simple form. Each Web site includes a highpeed connection, a selection of graphics. the ability to search multiple Web pages and the ability to receive electronic mail. Instant Web Sites gives Web administrators a 24-hour Web server, nightly tape backups, automated indexing and Web site

age statistics. Pricing for the product is based on hit rates. The base rate is \$30 per month. which includes 10M bytes of hard disk space and covers up to 30,000 hits per month. More information is available at InfoStreet's home page at http://www.

tweb.com. ► InfoStreet (818) 788,8488

Durand Communications Network, Inc. has announced MindWire NT.

· According to the Santa Barbara, Calif. company, MindWire NT is a live Internet cations server with an integrated orld Wide Web server, it was designed to let companies offer Internet groupware apions, on-line services and dynamic publishing with existing Web services. The MindWire NT client lets Internet surfers connect to all public-access MindWire NT

Pricing for MindWire NT starts at \$2,495 for a 10-user license. More information is available at Durand's home page at http:// www.durand.com.

Durand Com ications Network (805) 961-8700

Mortice Kerne Systems, Inc. announced Integrity Engine 1.0 for Microsoft Corp.'s Internet Information Server. According to the Waterloo, Canada, company, Integrity Engine 1.0 automates

change management and reduces buttlesecks in the development and publishing process. It was designed for webmasters and internet and infranet project man who manage change and team de ment on the World Wide Web.

Integrity Engine 1.0 lets authorized ere access an audit trail of development, check files in and out for editing, retrieve past versions of files and lock files to prerent overwrites.

A free version of Integrity Engine 1.0 is available at Mortice Kerns' home page at http://www.mks.com Martine Kerres Sun

(510) 494,2251 Grasp Information Corp. has announced Knowlt All 1.0 an information collector and organizer designed for Internet and World Wide Web users

According to the Farmington, Conn., omouny. Knowlt All 1.0 lets users capture information on the fly directly from the Internet, on-line services, CD-ROMs and other electronic sources. The information can be organized and categorized by dragging and dropping it in to user-defined categories. It also can be manipulated into different textual and graphical views, outlines.

Knowlt All 1.0 works with all Web bro

ers and Windows-based applications. It can tures source data and lets users add and modify notes to the information they collect. Knowlt All 1.0 costs \$50. A 30-day trial

speciet is available at Grasn Information's home page at http://www.grasp.com. Court letterant (DEAL ERE PROCE



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Chameleon Desktop also includes six powerful servers! NFS Server, PTP Server, Web Server, Directory Server, PC Net-Time

integration - drag-and-drop any information on the network between applications at the click of a button. Chameleon Desktop includes WinSock TCP/IP and is 100% DLL/VxD. Chameleon requires only 6KB



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Hack attack

Cyberthieves siphon millions from U.S. firms By Gary H. Anthes

spanies from their of proprietary inform on are "spirali upward," according to the American Society for Industrial Security (ASIS)

ing, bribery and various kinds of indu trial espiosage has jumped 323% since 1992, according to ASIS. That information is based on multiyear surveys, ac cording to the group. The average loss per incident was SSS million, and losses to U.S. industry overall are about S2 bil-lion per month, the Arlington, Va-

The had news is in a report, "Trends in Intellectual Property Loss." The sta-tistics are based on survey results from

325 corporations that reported 700 incidents of actual and attempted crimes.

"Loss of strategic plans, [research
and development] and manufacturing
process information accounted for more than 60% of the financial losses, said Dan T. Swartwood, co-author of

the report. "It would be prudent to begin any review process with security

res protecting those areas." Citing a draft of the ASIS report in recent congressional testimony, FBI di-rector Louis Freeh said. "These survey estimates clearly indicate that the actual and potential losses are immense."

The ASIS report's conclusions are

supported elsewhere. The U.S. Gener-al Accounting Office last month report-ed that five U.S. allies are spying on U.S. companies, which poses a "signifcant threat to national security." And in a recent alert, the Comp

Emergency Response Team at Carne-gie Mellon University cited software piracy as one of the top seven types of imputer systems attacks.

Nearly three-quarters of the inci-

nots reported by ASIS were carried out by employees, ex-employees and other trusted parties. "Because of cor-porate downsizing, there are a lot of diagrantied employees out there,"

The exposure that companies face from insiders is unnecessarily acute because many companies have poor or population security policies and practices. ASIS said fewer than half of the survey respondents reported having written security policies. Of those cor-porations with security policies, only 60% have security training and aware-

ova navy security training and aware-pess programs for employees.

According to ASIS, the most com-mon form of attack is an outsider who calls an employee and gets conf-dential information under false pre-

Richard J. Heffernan, co-auth the ASSS report, said managers have a personal stake in information security.

They must resize they have a feduciary responsibility for the protection of information. In the future, you'll see stockholders and others holding them

stockholers and others bolding them accountable, "he said.

Each member of Congress received a copy of the report earlier this month. Heffernam said he hoped it would speed passage of three bills that seek to protect U.S. trade secrets.

Thin clients can help cut desktop software costs

By Thomas Hoffman

What do fitness guru Richard mmons and data warehousing managers have in common? Both bsessed with "thin clients." Thin clients let remote users

waload static sales reports and other predefined analyses by using cheap World Wide Web browser software and corporate nets. The software is often sed on on-line analytical prousing (OLAP).

Several vendors have intro-duced such Web-based OLAP software in the past two months, such as MicroStrategy in Vienna, which unwiled a nackage ware includes DataFountain from Dimensional Insight, Inc. in Burlington, Mass., and- packages from Information Advantage, Inc.

Use of thin-client systems can dramatically reduce the cost of desktop software. For example, typical decision-support client noftware costs from \$700 to \$1,000 per desktop - and those figures don't include hardware upgrades that are often needed to run these ap-plications, said Robert Moran, an analyst at Aberdeen Group, Inc. in

Internet browser software when it's not being downloaded

are less exotic than tradical ad hoc query too which data mi for queries such as "How

many dispers did we sell in New Mexico to white men age 25 to 39 who air so bought beer? Int mation systems managers say they're drawn to th simpler packages because the cost of supporting and distribu-ing "fat client" query software to

de users is expensive.

months ago to run queries against a Sybase, Inc. customer point-of-

"If our salespeople can use one browser as a front end to our data warehouse, we should be able to save a lot of time and money in

at SC Johns Nax. He said his group plans to test other 'net bled data wareh ing packages in the next few months better it de cides on a product.

Hannaford Bros. Co. in Portland, Maine, also has tested DSSWeb for use by

store managers in its 140 grocery stores in the eastern U.S. Potes-tial benefits are "an easy-to-use,

Ottp://www.computerworld.com) APRIL 15, 1996 COMPUTER



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Give people the tools to set their information is quick and easy, users can information is quick and easy, users can advantage for your company, live Missail Microsoft Office family of applications. Dismonent users appendie less time getting star money. People here the capability to take Exical Prioritables "Missaid to see the less Access in a clear and dynamic way. And users can combine data like names an the data to marge, the document to missail properties."

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sets everything up to go.



Now ye New Min Window Work of work of work of full advantage of database technology.

desktop database designed to work with the m and the powerful capabilities of Windows 17* scrien of Database Replication, people can take Windows 95 Briefcase and merge offline changes icrosoft Office and new Microsoft Access you way people need to their fingertips. Help wind their software without it getting in the way.

CIOs: Vendors can improve on several fronts

TORONTO Vendors still have a long way to go to meet the needs and demands of IS professionals, judging from the comments of CIOs who participal ed in a panel at the recent 1996 Client/Server Leadership Forum. The canel's four chief information officers said information ms vendors must show prester leadership and do a better

job of designing products that

help corporations implement

Mike Velshi, chief technology officer at Royal Bank, said betterquality products is at the top of his wish list. The quality assurance

process, in too many cases, leaves too many defects for the customer to fix." he said. "For us, this is the most major issue with software

Take the long view Vendors also must articulate a clear statement of their long-term product directions. Velshi said

dieware and software development tools and independence

from operating systems as issues vendors must more clearly define. Velshi also called for more servement on standards, or st least fewer "standards wars." We struggle with bow to bring about standardization and yet encourage innovation," he said. 'Ours must be the least standardized industry around." Finally business needs more help from

vendors to manage technology.

Other CIOs backed up his

ficer for the Canadian government's Treasury Board, chall lenged the attending vendor panel which included the Canadian

heads of IBM, Digi Equipment Corp. and SAP AG - to help business

manage its client/server overer "We are not, by any means, confident in our ability to manage, without a lot of support and participation," he told them.

You are certainly welcome at any time ... to provide your views and (offer up) particular approaches we should be aware of and the opportunity to work to

Jennifer Thompson, vice presidest of information services at Canadian Tire Corp., highlighted a number of areas where vendors can assist, including software delivery, decision-making and skills. "We do need a lot of credibility

within our organizations ... so it's very important to deliver our solotions on time and with quality.

"I count on software vendors to do that as well because, if they're

ware and can't be on time, what constructs do un have to be on time?" he asked. Both CIOs and Bob Little, chief informatics of vendors said they have a shortage of qualified staff and need continued training. And vendors and their customers often compete for

the same people, a situation that is a major headache for at least one CIO

"If you [vendors] think you have trouble maintaining skills ... every time we have anybody ap-

opristely ready, they seem to be attracted by the fact that they can get anywhere from 30% to 50% more money going to work for you." Little said

Roman also said partnership nd joint ventures with vendors will help corporations "make the long journey toward client/

"I find it very difficult to believe hat this industry is not capable of better understanding what our problems are sad what we are trying to accomplish," be said ng to accompute, or sa What you can do for us is to ha s better understanding of what problems are."

This story has been adapted fro Computerworld Canada.

Briefs

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to sets for U.K. and d. The system, see rel. N.J., repl

Wal-Mart buys tools ity took from

Air Force to Launch

ract to provide its var-software to the U.S. Air

Web-based search tool bows for IS staffers Directory yields product, vendor info

By Randy Weston

Information technology professionals now have a free search engine to call their own. Inquiry.com, Inc. in San Mate Calif., recently released a World Wide Web-based version of its In-teractive Product Search Directo

rr (IPSD). This is a directory of yes product information and development tips. The directory also con tains more than 100,000 trade publication articles from such journals as Jule World, a nister publication of Computerworld. Brad Meinert, an Internet and

but at input, inc., a market re search firm in Mountain View. Calif., said there is a growing trend toward custom search engines such as Inquiry.com's IPSD, which help to simplify 'set surfing. There seems to be a new search engine almost weekly,

Meinert said. "Certainly, a lot of this technol-

ogy is going to be directed at corporations who can add value to their Internet site with a link to a specific search engine instead of a concept one "he said

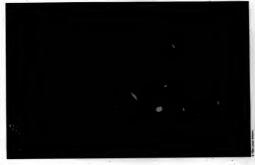
saller field

Reed Taussig, president Inquiry.com, said he develop his service for information tech nology professionals. With IPSD, they would be able

to find specific product informs tion without having to wade through the sometimes thou sands of listings that can arise when people use more general search tools, he said.

The service is free for informs ion technology users, but vendors must now to be included in

Taussig said the payment pla is based on use; if someone down loads a demonstration copy of a vendor's software or orders the software itself, the vendor is



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THE LAST TIME YOU'LL CHANGE SOFTWARE COMPANIES.

imothy King sighs as he looks at the photographs beside his desk. His wife, Beverly, poses casually in one picture. In another, his sons, 2-year-old Ty-ler and 4-year-old Matthew, crouch inside two playground tires and grin. "On stressful days," King says sadly, "I have gone home and yelled at them for spilling a drink or doing other things that are normal for a child to do." And there are other days when King, a LAN administrator at Ropes & Gray law firm in Boston, burely sees the kids at all.

Most managers worry that people's family problems will enter the workplace, but they've got it backward. Workers are three times more likely to bring work problems home than to suffer at work from the effects of family problems, according to a 1992 survey of 3,000 workers (including information systems staffers). The poll was conducted by the Families and Work Institute in New York.

These pressures are greater in IS than in almost any other profession, contends Linda Braun, executive director

Parenting Program

Mass., a nonprofit affiliate of Boston's Wheelock College. The parenting program provides skills and support to parents IS workers "are on call during odd hours and they absorb a lot of other people's frustrations," Braun says. "It is a very unusual person who can have a difficult day at

work and leave it behind." And IS professionals feel they must put in the time and accept the aggravation. People are making choices that are pretty gut-wrenching these days," says Stewart Stokes, senior vice president at QED Infor-

Burned out Downsized. On call 24 hours a day. IS professionals and their families are the real victims of the

new workplace.

mation Sciences, Inc., an IS education and consulting organization in Wellesley, Mass. They're afraid if they don't put in the hours, there's someone standing in line outside their door who will."

The technological tether It's 4:30 a.m. Seterday in Columbus, Ohio. The bars and clubs have closed, and Melio sa Ratchford is troubleshooting a T1 line

while her 10-year-old son sleeps sprawled across two office chairs. Twe gotten paged at midnight, 1 a.m., 4 a.m. ...," says the data communication analyst at Huntington Service Co., a subsid

iary of Huntington Bancshares, Inc. Ratchford says her beeper has become a "ball and chain." Technology has eliminated the bound-aries between work and home. Network ad-

ort specialists are on ministrators and sup call around the clock. Other & workers fall victim to production promises that border on the insane. "A manager for a major communications compagy told me recently they tried to get a product out in pine weeks," says Robert

Zawacki, a consultant and professor emeri-tus at the University of Colorado in Colora-do Springs. Zawacki specializes in 1S orga-nizational issues. "Their people are working 70 hours a week," be says.

For management IS workers at Ropes & Gray, the "end of the week" has become a distant memory, says Donald Bergstrom.

As the firm moves to a client/server network, Bergstrom says he has at least three specialists working each weekend, and networking professionals are in the office three Saturday nights a month. "We were led to believe that the PC networks would be easier and cheaper to run. . . . We are all dealing with the fact that [that] did not turn out to be the case."

Out of control

Out of control
It's not just the marathon work weeks that
can cause employee dissatisfaction; it's the
sense of helplessness that the workload
creates, particularly among IS people on
the operations side. Information technology work attracts and requires people who value logic, control and realistic time lines.



When these people find themsel in roles where they have more disruptions, are putting out fires and dealing with things they can't anticigate, they tend to feel more helpless. than a corresponding person in a marketing or sales function," says Gerry Kraines, a psychiatrist at Har-ward University. He is also president. and CEO of the Levinson Institute, an executive development and orga-

nizational consulting firm in Boston. The resulting job dissatisfa leads to work/life imbalance, Stokes observes. "People who confess to being less satisfied with their jobs also admit that their work and nonwork commitnts are out of balance," he says.

IS managers can take the following steps to

help their staff members regain some balance

• Set boundaries. "One of the things I've seen information technology mans better than [in] almost any other profession

is confrost [their bosses] with reality.*
Kraines says. Those "who define their projects well are in a better position to define
the limits of what is work and what is peronal, and (they) adhere to those limits But if the mainframe goes down, "all hell breaks loose, and you literally have no con-trol over your life," he says. IS profession-als and their families must come to terms

with that powerlessness. "Those who don't are in for trouble forey• Create • co ity. "Do any thing you can to build strong relaaships among colleagues. aun suggests. Schedule regular staff meetings, encourage peo-nie to talk about their lives, plan activities and events — whatever it takes to build an atmosphere of trust. When a family crisis arises, there will be a support network of workers who will back up one an-

· Create strong core valu These help you and your staff draw the line between work and family. "I try to let people know that I think family is important, and I don't expect them to sacrifice that for the job," says Gary Pictrangelo, support cenier manager at Huntington Ser-vice Co. and a husband and lather of four. chelle Green, s data co alyst at Huntington, says Pietrangelo's atti-tude makes a difference. As a wife and mother of three boys, "If I have an important event, [missing it] for day-to-day stuff

 Provide recognition and rewards.
 The high points of the job are when we hear that we are appreciated for the work we do," King says. But rewarding people for going beyond the call of duty also madd pressure. It's better to create an en ronment where personal balance is reward ed and appreciated, says Bruce Cryer, ex ecutive director of the Corporate Programs Division at the Institute of HeartMath, a nonprofit center is Boulder Creek, Calif.

 Discover your firm's resources. Be aware of the programs available to employ-ees, suggests Beth Fredericks, product manager at Work/Family Directions, Inc., a consultancy in Boston. That way, when an employee is overwhelmed, you can easily

refer them to the appropriate place for help. Offer opportunities for closure. King says some days are so rewarding, he would work for free. Those days come when we are given the time and the resources to take a project from start to finish and suc-

ceed," he says. Engler is a freelance writer in Combridge.

Fassel (Harp

N.Y.: 1988).

M Our n rvey will as in the Careers

Spending without results?

he origin of the term "computer paradox" has been attributed to my statistics teacher and the Nobel Prize winner in economics, Prof. Robert Solow. Solow was searching for evidence of computerinduced gains in productivity numbers, as reported in national economics statistics. He couldn't find such proof and finally gave up the search. The numbers coming from Washington weren't sufficiently reliable for anybody to figure out whether computerization or any other influence had any effect at all.

Paradox revisited As an engineer, I prefer measure meats that can be repeated, especially if I know that somebody has engaged in an organized effort to

secure the data Instead of following economic statisticians, I like to examine the re-sults produced by accountants and ors. Annual reports from corpoions contain data about revenue.

yment, profits and assets. Collecting information about what happens to firms in a period of sever-al years isn't difficult. Obtaining intion about computer expenditures is much harder. The best numbers that are publicly available are the ones reported by computer

magazines about information tech-I managed to accumulate the angets for 138 giant U.S. corporations; the figures were from 1988 through 1994. This includes the budgets of

Motors Corp., Rockwell International Corp. and Xerox Corp. I estimate that this sample accounts for about half of information technology spending for Fortune 1,000 corpora-

budgets and the corresponding filower overhead exnancial performance makes it possihie to test whether or not there is a "computer paradox." If the growth in nation technology spending is less than growth in profitability, then the paradox would be exercised. It

I found that at a 67.43 gain, information technology budgets increased much faster than revenue (29.6%) and profit (39.7%). Only employment spending lagged, growing only 2.3% (see chart below).

than revenue or profit. If high investination resulted in

improved productivithen SG&A should slow down as pared with revenor. That would indicate the compute payoff in terms of

> proditures, which would lead to increased profit. It didn't hausen Some of the follow-

tion technology. Fur-

thermore, the Sales

General and Admin

ments, where infor-

incorporated -

ets in com

(SG&A)

ing ratios explain couldn't be raised as a challenge to why (see chart below). the credibility of computer advoinformation technology budgets have grown relative to all other indicators and are greater than profits

for 56% of corpo spending in 1994 averaged \$4,970 per employee; this cost may be the second-largest indirect expense as ter health, pension and other person-

The increasing information tech-These differences in growth rates nology cost ratios are giving many

ficers the attention they always wished they had

There is some reason to believe that the relative importance of information hoology is under

Local operators inclined to acquire and consulting services that don't show up in the information technology budget. that makes the calculation of the pro-

tivity gains from ng enough to for ther cloud the issue Based on as good data as one can get. I

conclude that, for may be too early to unish the "computer paradox" to

vion, despite reports by leading pazines of its demise. The only thing to do is to make sure that the rise of computer spend

ing doesn't get ahead of the gains in profitability and productivity.

ation officer at several major org nations, beginning in 1961. He can be

firms such as AT&T Corp., General don't reflect (avorably on the contri-\$1,887,848 32.9%

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IS trend junkies, start salivating your survey just came in. Computer Sciences Corp. (CSC) in El Segundo, Calif., recently released its muchquoted annual survey ranking critical information systems management issues. Here's what's up, what's down,

Senior IS executives from 346 North American companies with revenue of more than \$250 million responded to this survey by the giant consulting

Hot trends

Down, but not out

Dropped from fourth place last year to 10th this year. Still, 50% of respondents cited it as a top issue this year, just 2 points less than last year.

Improving the IS buman resource Dropped from fifth place last year to 11th this ye That amounted to just a one-point drop, to 48%.



Aligning IS and IS budgets are up

more than last year.

More than 75% say they

activity, compared with

urce some IS

Outsourcing

45% last year.

and what's left us bewildered,

corporate goals The average budget increase this year is Perennial No. 1 is more expected to be 5.4%. It important than ever

was 4.6% last year. 72% of respondents say it's a critical IS monagement issue, 15% Using information

technology for competitive breakthroughs

Old theme surges back; it's in fourth place this year, from 13th last year. Tied with "integrating systems" and "capitalizing on advances in information technology."

Organizing and using data

Cited by 71% of users, it's the only item on CSC's list that's in the same league as alignment.

Updating obsolete

54% of IS managers cite this as a top issue this year. That's 10 points more than last year.



What Two findings that left some

Computerworld editors wondering.

three greatest contributors to the success of your IS



We save Only 4.6%? No wonder so many users think IS doesn't understand their needs.

CSC ASKED: What ore the three greatest obstacles that keep you from being a more effective IS ndents: The Top 3 obstacles are budget/cost constraints, lack of corporate management

commitment or awareness of information technology. and lack of resources. We save If you want to reduce the CIO turnover rate. stop blaming your problems on others.

Are the respondents' answers off base? Tell Managi senior editor Alian Alter at alian alter@cw.com



Don't be smug, pal

60% say their IS organization is effective or very effective but just 41% think their

internal customers agree.



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The cost of system time varies from site to site, but a recent study has put the cost of a medium sized PC LAN at \$18,000 per bour and the cost of a UNIX network at \$30,000 per bour." Numbers like that make it easy to understand how a hardon/sestine solution that can do its ich faster can save you serious money.

For example, for a single 40 GB restore, the CY-9000 will save you...

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If you're a leading company confronting a shrinking backup window or if you're a growing company wanting to foost productivity and save resources, the CY-9000 is probably right for you. We'll also be glad to talk to you about our highperformance firm tupe and optical disk solutions.

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ou won't be seeing voice and video or Internet transactions in your typical accounting database any time soon. But many information systems shops are laying the groundwork for a new generation of corporate databases that will manage a broad range of data types.

"We don't want to limit ourselves because we can't tell what the future requirements will be," says David Oglesby, MIS director at General Communications. Inc. (GCI), a telecommunications company in Anchorage, Alaska. GCI recently upgraded to Cincom Systems, Inc.'s Persistence Framework, which includes a hybrid relational-object database. "We want to be able to store various types of data," he says.

relational-object database. "We want to be able to store various types of data," he says.

Gartner Group, Inc. would say GCl is about on schedule. Complex data types and
object management is "loday for type A organizations," says Kevin Strange, a research director at Gartner Group. "We see it becoming mainstream by the year
2000. and it will be the next battleground."

The top dogs in databases understand this. Even though today most of their customers may not be ready for complex data types, the database companies want to be established providers of next-generation systems when the bulk of



Vandor tip their bands

Here are some of the key ve plans for new generation di designed to deal with comp types. • IBM, Armeek, H.Y. IBM ha

coupebilises for the OS/2 and AIX versions of DB2/2, which started shi ping last year. The company first offered text data support in DB2/2 earlier this year. It plans to incorport support for voice, video, insupe and financement data in the next three

months.

• Oracia Corp., Redwood Shores, Calif.

Oracia in February launched Universal
Server, a set of Oracia software compo-

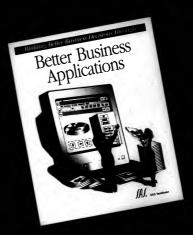
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up by acquiring filestre information. Tachnologies, inc., but year. The software will handle several data types, in deling mushes, images, may sovities and Web pages. It will also now age must-delined data types. A develour's various in achadulus in ship by th and of the second quantum. Camputer feasonines, inc., Infandin.

R.Y. CA beared up with Fujitze Ltd. a measured in january jeansine, as of jet-ut-stable distabase and dervelopment confronment, jeansine, achedul for general verificability "in the fail," intensided for the development of app cations with graphics, animalies, as out-ut-failed with. The Camerou will preserved on the confronment of app legen niedoni delakata mid gebwayt to canactin olev residencia migpresidencia spisana. A jarnine developer's lik ieu De mariet over. O ciccos Systems, i.e., Cadonani. Nisolwara conpany actually was veyshaud offito big semo is derbasea. Cic com has been effecting on object delabase hand out beloog, inc. solware and pramoting its relational object delabous circlegy for nore that a year attack.

> Sylvane, Inc., Emergettie, Calif. Sylvane as no publicity amounted strategy. he company has said it is committed to rewilling object extensions to its data-

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Busting loose

CONTINUED FROM PAGE 98

their customers come calling. Since the beginning of this gers such as Oracle Corp., Informix Software, Inc., IBM and Computer Associates International, Inc., have announced or started shipping functions to handle more complex data types. The one notable exception is Sybase, Inc., which says it is committed to providing ob-ject extensions to the Sybase database but hasn't yet re-

aled any specific plans The upside to all these announcements is that users can at least get the lowdown on what their vendor's aproam in come get the instruction on man over vertice a sip-proach is to managing complex data types (see "Vendors tip their hands, "page 93). Some companies, such as IBM, are extending existing database software to store and manage oew data types. Others, such as Informic, have acquired object database technology and will use it to ex-tend their relational database. Still others, such as CA, plan to offer a full-blown object database environment and

wide hooks to relational systems

For years, companies have worked with object technology and found ways to incorporate nonrelational data types into their IS operations with dedicated systems. such as imaging or text-retrieval systems. The difference today, according to many observers, is there are more tial business reasons to integrate these functions

directly into the corporate database environment.

The most compelling business driver today is the internet. Because so much of the information flying across the Internet is nonrelational, companies need databases that can store, retrieve and manage other data types, particularly documents, video and sound.

As a result, the big database firms are shipping tools to "Internet enable" their software. This - among other things - would let users from a remote World Wide Web browser directly access the database. With this cape companies can move from static internet activity - essentially publishing company information — to an inter-

active environment of electronic comm There has to be a husiness reason before these tech cologies become interesting," says Yogosh Gupta, a seaior vice president of product strategy at CA. "For rela-

tional, it was ad hot queries. People are now making gudio, video and graphics an integral part of their busi nees. To do that, you need to have a database that supports these rich data types. Boor Allen & Hamilton, Inc., a consulting firm in New

York and an Oracle user, has been developing a worldwide knowledge database that its consultants can tap in to and use on consulting assignments. Aron Dutta, a princical and member of the knowledge team developing this database, says, "we have to handle more than relational

data" because data exists in so many different formats The company manages separate subsystems from several weadors to manage various data sources such as documents. But the firm wants one integrated platform to tage all data types. It uses the relational database and

Web Server components of Oracle's just-announced Universal Server. It will evaluate this platform for managing other data types as well, Dutta says Bryan Knox, president of Voice I/S, Inc., a custo

support software provider in Dallas, is beta-testing object. extensions for IBM's DB2 so his company can integrate voice data into its DB2-based system. "This swings the door wide open," Knox says. Voice

1/5 plans to sell new customer-support software that can handle relational, image and voice data. "Historically, voice-processing solutions didn't talk to relational data bases," he says. His company had to build pointers in the DB2-based system to link it to images stored in flat files. By using the DB2 object extenders, the company will be able to provide application software that uses one data

base for different data types. As an example, the customer-support application will

ator Scott McLood is strug

marks consumed Mrt and says: "It is pretty clear to me wi sdors think I want and what

I want are two radically diffe

us." McLood says he has ted the DB2 Web connection cause "I want to be able to use it when I have to But as it

ds right now, we don't he ny plans to move toward it." ne Brown, director of data ms at Anthem Blue Cross

whouses by using the SAS Insti-

agation tools to keep multiple Dita talases in over. ISM tools are good, he says, but As far as the industry buzz on objects and the lo

eventually store letters and documents such as contracts and related product information that are associated with omer accounts. Knox says.

Object of your desire
Object technology can stir up contentious technical de-bates — are users better off with pure object databases or with hybrid systems that meld relational and object func-tions? But according to industry consultants and IS managers, there is no clear right or wrong choice. Instead panies need to make decisions based on their current se investments and predictions of how significant a

role they expect objects to play. Companies that are selecting a client/server date day have a good opportunity to evaluate the vendors' approaches to object management. But other companies may find that their investments in certain database products already are so pervasive that it may not be worth the time and expense to switch wendors solely on the issue of

explex data type support. One big concern among some users is that their ven dors will focus on object technology at the expense of core issues such as reliability, integrity and performance (see "Speeds and feeds still top concerns" below). But the idors insist that core issues remain a top priority. One example: In its grand rollout of Universal Server in Feb ruary, Oracle also introduced a range of systems and tuning tools. One offering is Enterprise Manager, which includes software distribution and graphical-based data se administration tools.

Cafasso is a freelance writer in Walpole, Mass.

Snippets

ds and feeds still top concerns

ogy, but they don't expect to leave

it their too database chai

cts or the Internet. Inc y say it's still the m RECTABLISES cts of da re's a lot of merit" in d

all yet," says Cary Serif, ma

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Database Systems By C.J. Date, Addison-Wesley Publishing Co., Reading, Mass., 1965, 839 pages.

Database Management Systems — An Insider's mide to Architectures. Products and Denign By Robert M. Mattison,



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Progress ROBMS

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SQL Base Server Centura Software Corp.

Menio Park, Calif.

http://www.ibm.com

Progress Software Corp. Bedford, Mass.

http://www.progress.com

Other DBMS vendors cited in this feature

DB2/2

Total ORDS Cincinnati, Chio (800) 543-3010

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"Symantec's little fib"-Information Week, 9/11/95

A lot of people disagree with Symantec's claim that they have the best virus protection. Even some Symantec people.

Vice President of Desistop Utilities, Ellen Taylor, said "we regret any miscoriception..." that resulted from Symantec overstating its deter rate Information Week described it as "Symanter's Little Fib The San Jose Mercury News added that "Symantec, with NCSA's urging, has

acknowledged that it may have exaggreated a bit..." Another Symantic ad misleads maders by comparing their desktop anti-virus

product with McAfee's WebScan for the Internet. Advertising aside, just how good is Symantec virus protection?

VSUM tests over the past year show that Symantec detected less than 88% of all viruses while McMee VirusScan caught over 97%.

"Norton's chicken soup not as foolproof as advertised" -San Jose Marcury News, 9/15/95

Maybe that's why McAfee virus protection is trusted by over 10 million users. More than all others. And maybe that's why 80 of the Fortune 100 trust McNee's products. To find out for yourself, just download any fully-functioning

McMee product. There are no encryptions or time bombs. We trust you to not ns if you decide to keep it. After all, virus protection is a matter of trust. And now that you have all the facts, we

trust you'll decide on McNee. For more information on McAfee products, including our on-line technical smoot, call 1-888-VIRUS NO toll free.



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Oracle soars ahead of the pack



CORECARD

By Keerin Burden

racle Corp.'s Oracle 7.1 Enterprise ver is making a deep impression on users, per hans deeper than that of any of its competitors. Com-

reported's intest user satisfaction survey says More than half of 50 Oracle 7.1 users (56%) surveved characterized their overall satisfaction with the highest grade allowed: "A" for "very good." Oracle's nearest competitor, IBM's DB2/2, won As from 36% of its users. Microsoft Corp.'s SQL Server was third with 28%, and Sybase, Inc.'s SQL Server was last with 27%.

When surveying reintional database manage system users in the past, these leading vendors have always finished in a tight pack. So what's different this year? Foremost, it's Oracle's latest version, Oracle 7.1, which includes new features such as open gateways for imved interoperability. And use

cited scalability as a plus, now that Oracle's Workgroup Server and Personal Oracle are in the mix. But really hitting home was Oracle's stability, which was the reason

users most often cited when asked why they chose Oracle. "In my 20 years of database experience. [Oracle 7.1] is by far the cleanest. It practically has no bugs," says Gary Roseberry, a database engineer at the Consortium for International Earth Science Information Network in Surinaw, Mich.

Computerworld contracted First Market Research Corp. in Austin. Texas, to survey 50 users of current versions of each of the four market leading server-based RDBMSs. The goal was to find out how well each nackage performed and which factors led users to choose it.

How would you grade your overall satisfaction Oracle 7.1 Enterprise Server soft SQL Server 54% Oracle 7.1 Enterprise Server Microsoft SQL Server

Our past surveys show that IBM's DB2 family has enjoyed strong user support, and this year is no different. But IBM is a distant second to Oracle in ber of As for overall performance; iBM and Oracle are neck and neck if you consider the total number of As and Bs ("good") in all categories. Users said compatibility was the primary reason they chose DB2/2, and perating system compatibility is foremost on their list. All DB2/2 users sur-

Colino	Only 28 informix use for the other DBMS a
telerets Sollerers, Inc. Menio Park, Calif.	the survey. The major
(Boo) 331-1763	unidaction with a B or
http://www.informisc.com	unique among those piego passed parallel
(sali users)	for their choice. Onl.
	technology can speed
	performing scans, joi

	Very good	Good	Average
verall satisfaction	11%	46%	25%

quirks a little better," says Lawrence Deberry, director of internal audit at Sun Diamond Growers of California in Pleasanton, Calif.

veved were running IBM's AIX, and more than 90% gave operating system

DB2/2 is also prailable on several other Unix versions as well as OS/2, and it was recently was ported to Windows NT. Although our survey doesn't reflect DB2/7's performance on these platforms, comments from seve indicate the NT version worked well in their tests - even though it lacks the

graphical tools of the AIX version.

Despite some new features, Microsoft's SQL Server 6.0 remains architecturally similar to past versions. This means all applications are fully compatible. which helped Microsoft garner Bs for overall satisfaction from more than half its users surprised

"We upgraded because it was compatible with what we have now." says James Johnson, lead systems analyst at Williams International in Walled Lake, Mich. Johnson isn't alone: Compatibility with application software is the No. 1 reason users said they in-

salled 6.0, which will soon be replaced by Version 6.5. Application compatibility is fur-ther enhanced by Microsoft's SQL Server Distributed Management Ob-

ects architecture. The architecture has more than 600 OLE interfaces meaning that any OLE-support application can embed its contro

to the SQL Server application. Priced at \$999 per server and \$149 per client, Microsoft's SQL Serve was the only RDBMS for which users listed price as a top motivator

Sybase SQL Serve base's SQL Server 10 didn't post

the same positive scores it did in last year's review (CW, July 17). This year, Sybase had the sewest mar of uners willing to give overall performance As and the most giving Cs ("average"). "We're more familie with I System 101 now and know its

SQL Server 10 has numerous bugs, which users say have surfaced over time and have affected their view of the product's reliability. But Sybase's de-cision to pursue the International Standards Organization 9001 certification. a stringent quality-control process, may have returned some reliability and respect to System 11, which was made generally available after this survey was completed. Reliability was the second most frequently cited factor as to why users chose Sphase. And 70% of those who named reliability gave it favorable grades, compared with 56% last year

Scalability is another area in which System 11 prerelease overs no improvements. Sybase had encouraging news last October when it an-nounced that System 11 achieved 5,621,07 transactions per minute/type C on a 12-way symmetrical multiprocessor HP 9000 Model T500 from Hewlett Packard Co. "Performance and scalability were severe problems for us once. System 11 hasn't solved all our problems, but the system is not nearly as stressed as it was," says Barry Klutz, database administrator at NationsBanc Services, Inc. in Char-

Burden is Computerwoold's senior rewarder. Scorecard/Firing Lips

lotte N.C.



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In Depth



the ENGERS

By Kim S. Nash

While Soren Ragsdale was away from his PC
— at a 7-Eleven, in fact, buying a Big Gulp—the electronic thunderbolt struck.

Someone, and Ragsdale has his ideas about who, had forged an electronic-mail message in his name. The crass note promoted a bogus business that Ragsdale supposedly was starting. Then came the spanning the company of the came the spanning that the company of the

Thus began the forrent, says Ragsdale, a student at the University of Artinonia in Tenpe. Within hours, more than 40,000 angry responses poured into his Internet account at school. Ragsdale suspects the message that lit this wildfire was forged by Jeff "Spam King" Staton, with whom Ragsdale has waged a lengthy flame war. (More on Staton later)

The Internet offers enormous possibilities to commit faux pas, misdemeanors and If they deem your posts rude,

obnoxious or criminal, there are plenty of

are plenty of people on the 'net who'll clue

you in or drum you out. Are

they guardian angels or vigilantes?

Other of he like lines, he has been stored by private and other or stored. even felonies. And due to its decentralized nature and free-spirited history, it has given the cold shoulder to formal policing. But nature hates a vaccuum, and private volunteers have stepped in as enforcers. The question is, are they doing everybody a favor or com-

pounding the problem?

The Internet's anonymity, combined with the few easy keystrokes required to spout off to millions of people at a time, can amount to never-ending disinformation, insults and annoyances. Worse, Internet bystanders are forced into the game simply by being there.

The way the Internet works encourages people to fly off the handle ... and [10] keep seeding words around and around and around the world, sight Charles Hymes, a doctoral candidate in human Computer interaction at the University of Michigan in Aman Arbor. Hymes runs a World Wide Web site intended to "clue in the clucless" about widespread houses.

Enforcers, page 104

CONTINUED FROM PAGE 103

ember the one where an angry Neiman Marcus customer posted the retailer's recipe for gourmet cookies on-line? Hymes has seen the same foolery with Mrs. Field's, Pilisbury and Betty Crocker. "The first time I saw it, I baked the cookies. But the sixth or seventh time, I just got annoyed," says Hymes, who has used the in-

ternet for 11 years. The most recent urban legend was a mensage supposedly from an internet-governing body. Users were urged to "unplug" their computers from the 'net so the network could be "cleaned." (Cleaning day

was April Fools' Day.) Jeff Staton's antics, on the other hand, are more insidious. He has made a career of spamming Usenet for start-up companies that want to advertise on the Internet. Paradale hates Sixton and his soom and

has created a Web site to let the world Whether the offender is malicious, crimi nal or just naive, it seems everyone wants to chew out the collective butt of the 'net obnorious, and some are making a career

-bot ['kanft]-sel-bit[n: a m posters can usa to cancel own messages; can be rigged cel other people's messages

of doing so. That includes private individuals such as Hymes and Ragsdale, multinational companies, vol

cyberpatrols and even the fed-But why? And who are these

arbiters of bad taste? Ironically, 'net tradi - the very people who abhor being told what to do - agree on the need for rules. "It's strange but true," says Ariene Rinaldi, a computer science professor at Florida Atlantic

University in Boca Raton. As a parallel. Rinaldi points out that when the telephone first gained popularity in the

late 1800s, people didn't get it. The phone would ring, meone would pick it up and ey'd wait. The person on the other end would be waiting. too. Finally, neither one thought the thing worked, and they'd hang up," she says.

The polite appr Rinaldi believes every commu-nications technology needs a protocol. She advocates the polite-cough method to cure tle notice to an offender about a transgres sion and suggest an alternative means of expression.

a Usenet post, Rinaldi will explain sweetly that all-cap missives are a no-to. THEY MAKE THE POSTER LOOK LIKE A RAVING LOON. Harsher reprimands and

point, but they can affect people who are incent," she says. Despite her light touch, Rinaldi hates being called the Emily Post of the Internet.

place - frequented too often by acoff-

tactics used to combat them. The humiliation approach Some vigilantes act alone. Alex

won't stamp out 'net abuse, humiliation Boldt's Blacklist of Internet Advertisers.

> in Phoenix, inspired the mathemat ics doctoral candidate at the University of California at Santa Barbara to create the site. Canter & Siegel of feeded, even encared, much of the

sounming Usenet with ads for discount legal services to help immigrants get green cards. The lawyers were stormed by incensed flame

Boldt posts quite a bit of an offender's contact information, but says he advocates an illegal retail Rather, he calls the list one attempt "to

achieve the situation where every spot mer immediately turns himself into a pariah." People use Blacklist information to take aim against spammers, but Boldt says he can't be responsible for that.

"Every reaction that breaks a law is too extreme. Fortunately, there are many possible assistments that are perfectly legal.

Predictably, the list generates flames and threats against Boldt, as well as the occa sissal "Who made you God?" message.

Valvecta [vol-'von-to] at many ; of the same or similar message powted to as-eral marelated newarroups. ATM are EPAM

"This is good because it shows me they dun't appreciate being blackinted," be

But Interpet discr ourse isn't com grim, according to Hymes at the Unive of Michigan. "I haven't seen any dethreats in a while," he says. "Probably be cause people are aware that there are FBI

ats out there watching If the Federal Bureau of Invest isn't, then a group of amsteur law enforce curtainly is

Cyber Augels is an electronic offshoot of the famous street-patrolling Guardian Angels. The group seeks volunteers to stalk the 'net for scenes of wrongdoing, inch ing suspected theft or fraud by business or harasament of individuals. Volunteers then report alleged crimes to CyberAngel afficers or more formal law en

Incoment officials. The all-out-way

godale and Siston are po en for this method. Sla ton, for example, has talked about suing the Internet serdale's anti-spam and anti-Sk pions, Ragedale says. Th

Spam King couldn't be reached for comment. He rega changes his E-mail address and tel shope put stay shead of a ra hid nork of States

don't expect the trouble to die down. "The reason Jeff Siston isn't going away is the same

reason you don't have slimy awyers going away: There will shows he people with no mor als who think they can make money," Hymes says. Speaking of lawyers, most

the unceremonious appearance of the fed eral government on electronic turi For In-

terms government on excutous in 190 in-termet purists, the prospect of lawing politi-cians filter information is frightening.
"We very definitely do not need the U.S. Congress telling us how to use the In-ternet," says. Howard Rheingold, the San ancisco-based author of The Virtual

Rheingold says education is the key. The net "has norms, not rules. It depends on people to pass those norms along. [but] the rate of growth [in the num ber of users) has made that impossi-ble." Rheingold chalks up the cur-rent tumult to growing pains and expects on-line life to regain comp

sure "after the fadism wears off." But others, such as Brad Temp ton, want to ensure that the internet remains relatively free of formal

An internet veteran of 17 years, Temple An anternet veeral of Pouts, temporate ton is one of neveral plaintiffs is a suit against the U.S. government to stop the Exon-Costs Communications Decency Act.

Part of the Telecommunications Deregulaon and Reform law signed in February. the act prohibits obscene and violent mate

Initial testimony in the case began late st month in the U.S. District Court for the astern District of Pennsylvania in Phila delphia; free-speech advocates con their arguments two weeks ago. Until the case is decided, the government is restrained from enforcing the decency

"If you give people the power to get rid of troublemakers, you give them power to get rid of people they just don't like," Temphe ton says. He publishes. Clarisat, a 7-year-old on-line newspaper from ClariNet Commu-

nication Corp. in Sen Jose, Calif.
Templeton spends most of his free tir on-line and doesn't want to see his playound obliterated.

The 'net has been an overriding drive in my life for 15 years," he says. "Arour here, people travel and hike. I do a lot of computer stuff."

A radio-frequency modem in a noteb



uter lets Templeten log on when he's in the car.

Twe been known to send E-mail from my doctor's waiting room," he says with a lough. Templeton, like 'net enforcers of all types, remains hopeful that he can make the 'net a better place.

Nanh is Composters corld's senior editor. unsetting to Interpet users is Internet.

If someone, say, uses all capital letters in

personal attacks via flame mail "make a

"I would never call what I do 'enforcing

rules," she says. "That would negate the free-speech nature of the Internet." But that's just it, critics contend. The laternet has become too wild a

laws - to be tamed by love-thy-orighrists. When on-line conversal get reactionary and ugly, so do the

Boldt's philosophy is that if being polite

for example, is a Web site that lists in big. bold letters the names and offenses of internet abusers. Canter & Siegel, a law firm

internet community in 1994 by

mail, and the volume forced their Internet service provider to shut down.

Site seeing

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The trainers' trade: learning anew

Limited budgets and unlimited technology changes are forcing new roles on IS trainers

it's more of a tech

ast year, when our graduates were itterriewing, things were cruzy around here," says Alison Rossett, a professor

of educational technology at San Diego State University. Rossett teaches future information

technology trainers. "In December, it was like baseball free agency - companies wanted all our people. There were more job opportunities than caudidates. A prominent company that recently hired one of our graduates called and said, 'Send us

another one just like him." The information systems training industry is expected to grow exponentially through the end of the century - but these days it's lo flux. Many people think internal staff numbers have flattened out,

and outsourcing will rule the "Com anies are watching to see if they can hold their own

with training staff because going out is very costly," says John Lewis, chairman of the Department of Humanities, Social Sciences and Biometrics at Hahnemann University in Philadelphia

The new school Donna Coombs, director of education services at Aris Corp., an information technology training consultancy in Seattle, argues that rapidly changing technology often is the determining factor in the

outsourcing equation.
"You're probably never going to be able to find all the emerging linformation technology] skills needed in a few people. You'd have to maintain a pretty large training staff to stay on top of everything, Coombs says.

The business is changing in

Trainers are expected to use new teaching tools, and they can take their skill sets in new directions, according to Herb

s are out there -

AT&T Corp.'s Lucent Technologies Center in Cincinnati. Job opportunities and demands for trainers can vary, depending on whether you're on staff or a hired gun.

Consultants have to be comfortable in man different teaching situations. "External peop are going to be exposed to a breadth of teaching and situational solution environments. says Marsha Kabakov, group

manager of the Worldwid Education Channel program at Microsoft Corp. In-house trainers face different challenges You know what your audience is looking for week after week But, on the other hand, you have to consider the long-term

business implications," Kaba-"Internal people are on

more training coordinators Coombs says. "They decide what advention is parameter in [information technology] and either provide it themselves or advise management on when to find it, then work with the

It's crucial for information technology trainers to keep abreast of current and emerging technolopies. But that's easier said than done for internal propin who are busy with long- and short-term business goals and for external trainers who spend a lot of time traveling.

You've gotta read the periodicals," Lewis says. "Focus on two specific publications rather than rooming across the spectrum. And try to attend one seminar a year and present at another - when you're speaking, you really have to know what you're doing. This helps you build a network and find out about new

Coombs says there are many rewards. The job is great for people who like to be on stage and have the opportunity to express themselves. You get a lot of kudos, voo're appreciated. Sering people learn and enjoying learning makes you feel good."

Bivens, a senior performance technologist at Menagh's afreelance writer in Brooklyn, N.Y.

Big recruiter on campus

To snare the best and the brightest college talent, lure them with tales of exciting work and technological challenges

That is the conclusion of a recent survey of IS students by Brecker & Merryman, which es at leading technology achools. The Re-iting Computer Technology Graduates vey asked 90 graduating IS seniors to k the importance of recruiting pra

The survey found that "an overri ration for con s is the chance to grow profess d learn new skills," says Andy S in New York, a human resources co or firm, "Consequently, recruiters to cente what is unique about their ny's opportunities and how such dis ferences enable professionals to build a c

greey revealed the following:

57% of IS graduates rely on t mouth referrals when deciding wi with a company on

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MADE TO **ORDER**

Manufacturing company manager reveal their ideal IS job candidates

By Steve Alexander

The Gillette Co. in Boston is falling 20% short of its information systems hiring goals. And it isn't alone.

Manufacturing companies nation wide are burting for talent big time as they migrate to client/server comnuting. The greatest hiring needs are in open systems, client/server techgies and some skills specific to the manufacturing industry. These include integrated manufacturing and financial software from SAI America, Inc. and Oracle Corp.

The hiring shortage is driving up salaries and forcing many companies to hire contractors while they search for full-time employees. And many companies have been forced to delay IS projects for lack of talent.

For IS professionals looking to cash in, IS managers at leading consumer goods manufacturing compa-nies offer their views on what skill areas are the best tickets to success. Mexander is a freelance writer in Edina.

WANTED: 15 GOOD PEOPLE



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Marketplace

The skinny on scanners

Input devices are spreading beyond high-end applications and becoming more useful in the corporate world

By Lynn Haber

Scanner technology, usually associated with high-end applications such as imaging and nublishing, is becoming more widespread, with low-end and midrange products targeted for office applications.

Low-end scanners tend to be easy to use and low in cost and have a broader applicadon range than do image scanners, which often are found in vertical markets, says Abhijeet Rane, an analyst at Link Re-

sources, Inc. in New York. Products such as Canon Computer Sys tens' TX4025, Epson America, Inc.'s ES-1200C and Visioneer, Inc.'s PaperPort VX represent the low end of the scanner market, where pricing starts at a few hundred dollars. Available is cither flatbed or sheetled models.

lowend scanners are primarily used for managing paper on the desktop. Users can expect to see 600 dot/in. replace 300 dot/in. as the standard resolution for low-end products by the end of the year.

Resolution is typically dictated by that of output devices such as laser prin While some organizations opt to put a low-end scanner on every desktop, a more takely scenario is that each department will

have a few networked scanners. Midrange scanners Midrange scanners are commonly used for document imaging applications. They are usually operated by one or two people on a

dedicated workstation. These high-speed devices produce 20 to 40 page/min. and range in price from \$6,000 to \$10,000.

The scanning market for document imaging faces obstacles, including integration with the network environment, user-friend liness and the drain on network bandwidth Those problems are slowly being addressed, according to Kristy Holch, a principal at InfoTrends Research Group, Inc. in

The whole enterprise infrastructure networking, PCs and operating system environments - are more image-friendly than they were in the recent past," she

Hewlett Packard Co. recently defined a new product category in the midratge when it introduced the networked ScanJet 4SL The Scanjet 4SI allows workgroup bers to scan documents to share them. A step ahead of the low-end products

in terms of sophistication, the Scanlet 4SI targets document im aging applications. The flatbed gray-scale scanner connects to an Etheraet or Token King LAN and features 300 dot/in. resolution at up to 15 page/min.

Top-rung products Going another step up in the market are end scanners for document imaging in a centralized capacity - in an order processing department, for example. Here, scanners exceed 40 image/min. and may

cost more than \$100,000. In general, expect better products at affordable prices to continue to drive both the low-end and midrange scanner mar-kets. The technology continues to advance. There's no reason for organization to put off scanner purchases," Holch says Haber is a freelance writer in Norwell, Mans

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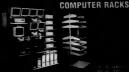
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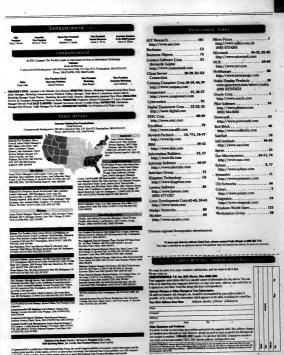
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Analysis for the masses

Arbor Software Corp. (Nandaq:ARSW), a pioneer in on-line analytical processing (OLAP), has been a hot stock since Morgan Stanley took the company public in November. The abock jumped from 317 to 539 on the first day of trading. The stock in still expensive — trading at 83 times our carriangs forecast for 1997. Investors are willing to pay a premium for Ar-

Investors are willing to pay s premium for Au bor because it offers a reasonably priced product that delivers an immediate solution to s known analytical problem. After years of col-

known analytical problem. After years of collecting data in relational databases, steers are poised to access that data via fast OLAP enginesand data warehouses. Arbor's Esobase lets them access and work with presummarized data via an Excel sucreal-



sheet (or a custom front end) by typing in field names. The software contains analytical functions that would require custom programming in a relational database. The product is quick, easy and unobtrusive.

However, IS managers who have pushed their organizations to move to a single relational database standard, such as those set by Oracle Corp. (Nasdag-ORCL) or Informix Corp. (Nasdag-IFMQ), cringe at the notion of using a product that moves data out of the standard and

into its own data store, as Essbase does. Although keeping all data in a single relational database has administrative advantages, it may not meet the analytical needs of certain users. A crop of relational OLAP companies has

emerged to layer multidimensional analysis ou top of relational databases, just as Essbase does. However, these products are complex, proprietary and slower than Essbase.

Of more consequence is Orach's acquisition of a multiflumention of LAF product from Information Resources, Inc. (Nesdag-IRIC). Now called Oracle Express, the product represents a one-otop-shopping alternative from a large competior with significant customer mind shave. Nevertheless, Arbor should continue to visuate proven OLAP solution on the market. The product is easier to use, finite to set up and proven OLAP colution on the competitors.

Philips is the enterprise software industry analyst at Morgan Stanley & Co., a global investment banking firm in New York. He welcomes comments at chappitms.com or (212) 761-4450.



Making investments less taxing

By Leslie Goff

f writing that check to the IRS was especialby painful this year, take heed: Changes in your high-tech investment strategy could help case that pain next year. Some tax planners say you shouldn't worry shout the tax ramifications of equity

investments.

"You only pay taxes when you make monex," says
Tony Ventura, manager of tax and financial planning
for Smith Barney, Inc. in New York. "First try to
make monex, then first over taxes."

However, others say that tax considerations should influence your investment strategy. When it comes to allocation of common stacks, you have to consider what's the best return or an after that not one-to-what's the maximum possible return, says Seighen Smith, a vice president at investment firm Stanfah, Ayer & Wood, Inc. in Boston. Consider the following scenaric Your Compact

Computer Cosp. (NYSE CPQ) stock had a buge gain, but you now believe that Gateway 2000, Inc. (Nandary CATE) is potend to such 20 you decide to take your profit by selfing the Company stock, and you released it in Gateway. But belone you cat, you should weight the capital gains tax you'll over on the profit from Company against your potential gain on the Gateway stock, Scatth says.

"It's important to recognize that if you like Gateway only slightly better, you might be better off on an after-tax basis just hanging onto Compaq," he

In fact, because high-tech stocks are typically

high-growth companies that do not pay dividends, capital gains are the single most important tax rainffication of owingin high-beet stocks. And that can be good news for high-tax-bracket investors. "Capital gains are more tax-frendly than dividend inconse." says Clark Blackmon, director of pressonal financial

services at Price Waterhouse LLP in Houston.

Dividend income is taxed at your tax bracket, which can be as high as 38.6%. Housever, if you've held onto the stocks at least one year, the maximum capital gains tax is only 20%. In addition, capital gains

capital gains tax is only 20%. In addition, capital gain taxes can benefit investors in lower tax brackets bycause the tax code stipulates that your capital gains tax rate cannot exceed your income tax rate." For information bystems professionals subject to the whims of sometimes unfersionals subject to the whims of sometimes unfersionals.

the whims of a convenience suppreficuable job marketincentrustein in high-growing problems gives sens the problems of the problems of the problems of the suppression of the problems of the problems of the suppression of the problems of the problems of the task breakte will be less than 25% in a given yets but task breakte will be less than 25% in a given yet but task breakte will be less than 25% in a given yet task breakte will be less than 25% in a given yet we without a single problems of the problems of we ship the protection between the single content is to be ship in a year to come tax at the Mexicans says. Incorporating the planning into your tradingdections can be below of the gains with some, notes

Charlotte Beyer, founder and director of the Institute for Private Investors in Summit, N.J. The 250-member group services high-equity investors. The key is to diversity your holdings among several high-tech market segments to reduce your expo-

al high-tech market segments to reduce your exp u sure to huge losses or huge gains in any one e sector.

Goff is a freelance writer in New York.

Outp.//www.computerworld.com) APRIL 15, 1996 COMPUTERWORLD

The Week in Stocks



CompUSA bucks slowdown

PC sales are slow. Software sales are down. With this bod news are the big gams posted by computer retailer CompUSA, Inc. (NYSE:CPU) a flash in the pan or a sign of a market leader

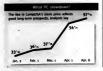
eating its competitors to sales? "CompUSA's short-term and long-term prospects are excel-ent. They are doing everything right," says Michael Rosen, a market analyst at Lazard Freres & Co. in New York. Comp-USA's total revenue is consistently at least 10% higher than its competitors', Rosen says. And its gross profit margins inproved 1% in the most recent quarter while its competitors'

gross margins slipped, be says Changes have been afoot at CompUSA since CEO James Hal pin took over in early 1994 and began replacing top officials and shashing costs. He reformatted stores to display more software

and emphasize high-margin products. CompUSA has achieved this success even though the growth rate of its square-foot retail space has been slower than grown rate of the square-time rectain space has obed stower than that of competitors such as Tandy Corp.'s (NYSE:TAN) Com-puter City, Best Buy Co. (NYSE:BBY) and Circuit City Stores, Inc. (NYSE:CC), Rosen says.

CompUSA's reveous remains strong in the face of the nation at trend of slowing PC sales. They say they haven't had a slip page in PC sales, but then again, they aren't dependent on PC sales," Rosen says. "They also have a tremendous training business, a solid direct-sales division and a mail-order business."

But some analysts have a hold on the stock. "CompUSA is ming to gain market share, and its long-term prospects look bright. But right now, based on its growth rate and multiples, I think the stock is very pricey," says Terrance McEwoy, an analyst at Janney Montgomery Scott, Inc. in New York - Semest Deci



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COMPUTERWORLD

Everything you need to know.

CONTINUED FROM COVER 1

It lets were store configuration files for all applications and system initialization files in one datahave said Mike Nash, Microsoft's group product manager for Win-

dows NT. "If you don't take the time to learn how to use the Registry. you're playing with fire," Nash said, echoing feedback from

users and consultants. For example, a user who decides to use the Registry Editor instead of the Control Panel to age the background colors oo his PC could easily crash the workstation if he has bitmaps loaded, Similarly, a network administrator who decides to perform a routine software change or upgrade could crash the NT Server if he isn't aware of potential conflicts between the application

and the Registry Editor. Advanced version Microsoft designed the Registry Editor in Windows NT to be an advanced version of the initialization files in the Windows 3.x operating system, Nash said. Initialization files define the configuration

Have an Emergency Repair disk in place. Users can create an Emergency Repair disk during installation or by running REPAIR.EXE in the server directory.

If the server crash was the result of a trivial chi the desktop configuration, reboot the server and wait for

the "Press the space bar now to restore Last Known Good mena" message. It will partially restore the Registry. If you don't have an Emergency Repair disk, use the em-Backup disk to n

tions to run properly. The System INI files in older version of Windows requir users to save changes, shut down the system and reboot for the changes to take effect. The new Registry Editor allows businesses to make systems changes without having to shut down the NT Serv-

er or Workstation. The downside of this is that users are flying without a safety net, said Patrick Campbell, chief technical instructor at Tech-Teach International, Inc. in Arlington, Va.

*Changes to the Registry Edi-

tor are immediate and irrevocable. If you make a mistake, you can instantly hose your system. Campbell said. Users who are Emergency Repair disk or a Winis NT backup disk - will be forced to reinstall the network opcrating system and all the attenmelications from acratch.

olding outages ally, network outages can be avoided if users opt to use the Control Panel iscility to perform ne tasks, Campbell said. hew Merrick, vice presi-

Nightmare on NT street

or Registry Editor hor stocies, talk to Gary ning analyst at Kainer Permo nente Health Plan, Inc., a bealth care provider in At

One minute he was using the Registry Editor to help in stall beta copies of some desk top applications and "the next thing I knew, it was crank,

ws NT Serve abended and Wilkerson lost the applications. Two spent, the last two days going through the pain of reing everything from

scretch. I hope I'm up and rus ning by the weekend," he said Willermon's experience was the classic "worst-case scena in." Not only did he cause his ows disenter by wrongly as-

The Merrick Printing Co. in

Louisville, Ky., agreed. "Twe been

The trick is: Don't tempt late."

codeep in the Registry Editor.

naming be knew what he was e of information systems a

When he weeds to change set : Registry Editor is avoidable."

tings, Merrick researches the sit nation and calls Microsoft technical support. There are a too of other 'gotchas' out there that are hard to avoid. Messing with the

settings that allow servers and Disk harrier

CONTINUED FROM COVER 1

major desktop operating system and operating environments -Microsoft's MS-DOS, Windows 3.1 and Windows 95 - can't access information on disk drives beyond 2G bytes. They also don't work correctly with network drives that have more than 2G bytes of free disk space. Information on those drives is effectively lost to the operating systems.

Solution to this week's



which can't see anything beyond 2G bytes. This could prove a particular problem with multimedia socications in which coordinated data streams are required.

Users who have a lot of graph ics applications want to use th drives on their systems, but if they don't know what's going on, they're going to be very frustrated," said Eric Goldoff, an IS ager at the Centers for Disease Control and Prevention in Al-

Microsoft is aware of the prob em with the other systems, said Brian Livingston, author of Wis down 96 Secrets and an industry at based in Seattle. According to Bill Veghte, gro

ager of hardware programs at Microsoft, the problem shouldn't affect too many current asers. Veghte said Microsoft plans to make changes to the next version of Windows 95 so it can address larger disk drives in future re-

in the meantime, users can pa tition the disk drive. That make the operating system think it's looking at several drives instead of one. That may solve the problem, unless the system is using an older RIOS - usually before mid-1994 - that may need to be up dated to read the larger drives. Livingston said.

DOS, Windows or W 95 can't recognize local hard disk drive partition larger than 3G bytes

But the Redmood, Wash., software giant discourages trying to run Windows 95 on a drive partitioned by Windows NT. Windows 95 wouldn't be able to accurately read the drive, he said

Problem comes back The problem often reappears if the system is rebooted from a per disk, such as a virus-scen disk, which resets the BIOS. Goldoff said. "Then you're back to mare one," be said

The problem dates back to the nnings of 16-bit operating sys tems and MS-DOS in particular. said Inlian Horwich, executive di rector of the Corporate Associa tion of Microcomputer Profes easts in Chicago.

"If you supported the largest number of possible clusters [of storage space] when you were deming your operating system. you sacrificed speed. And no one expected disk drives to be so rge when they were designing DOS," he said

With 32-bit open such as Windows NT, disk parti-tions can be made at a maximum of 4G bytes, Livingston said. That's one reason corporate IS

agen are considering replacing 16-bit operating systems such as Windows or Windows 95 with 32-bit operating systems, Goldoff

rating systems such as Unix, MVS and VMS can make much larger disk partitions.

BED //www.competerworks.com) APRIL TS, 1996 COMPUTERWORLD

doing, but he neglected to make an Emergency Repair or a backup dink. "I got burned good. Forto-

ely, it didn't happen on a server or I would have been toest," Wilkerson said.

tor. The admin sted anonymity, said a 7 crashed the net ent the entire weekene

the office on the phone with Microsoft technical s Thank God, it didn't hap have been my job."

- Learn DiDie

Vendors team to meld EDI with Internet

Netscape Communications Corp. and General Electric Information Services last week gave hirth to a joint venture aimed at melding the Internet and electrosic data inter change (EDI).

The new company, Actra Busi key electronic commerce products that Actra, Netscape and GEIS will sell.

To market The first product on Actra's agenda is a purchasing and suppl management application for on line business-to-business buying That application is expected to enter beta testing early next year.

To overcome customer uncer tainties, the Netscape/GEIS ven ture plans to build a line of EDI and commerce applications.

Those applications will use encryption and other security meth-

nds that work over the Internet rather than solely on proprietary

Fat chance

Computerworld crossword by Rick Bennett

Long shots, no-shows and legends (only in their own minds) populate this week's entertainment.

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2 Former dictator

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42 Sleep disorder,

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49 Lawyers, abbc. 50 Points 51 The chance IBM will surprise Bill Gates?

Insidelines

Mr. Amelio's Opus

Where can one renounter Owar nominee Richard Dreyhous, Brando-bourse Larry King, master of minis. How how, Brando-bourse Larry King, master of minis. How Little and Apple CEO Gilbert Annélo all in the same place? Believe it on out, at the Silicon Valley Bussiesse and Leadership Conternace in Jame. Sources sold as Little is working up a knowledge in Jame Sources to the authority working up a knowledge in Jame Sources to digital art and has a first name dust relyous work the place.

Full of Joy

Bill Joy, Sun's reclasive research garac, came down from the Colorado monatain last Towelsy to preach the relgion of Jars at the Patricia Seybold Group's distributed computing conference in Cambridge, Mass. But explairs Java to the unsashed? Please. Joy was less than inpressed after one attrodes complained that Sun had done a poor jah of upding out exactly what Java is. "That's not my most critical issue." Joy suifect. We'er very busy with what we're doing, and [Java] is going to lapper autyous. 'Over going to have Java whicher; you happen autyous. 'Over going to have Java whicher; you

An Ultra downer

Sun plans next week to ext prices by about 30% on the 64bit Ultra I workstations that it introduced last fall, sources said. That would lower the entry point on the Ultra-SPARC-based machiness from \$16,856 to less than \$12,000, Sun is trying to search the midrange workstation pricing initiative back from Digital, which introduced a \$13,845 box in March.

Yes, but are they delusional, too?

Yes, but are they desussional, too? Microsoft is "a tremendously, extremely paranoid company," Jim Alchin Tessed up at a conference last week. Allchin, general manager of Microsoft's business systems division, said when company executives huddle at Alf-like retreats," we sit around and worry about what.

can go wrong. And that's very good for our health.

Power me up

Power me up
That Pentium-powered PC just a mite too slow? Powerhungry corporate PC users can migrate to Pentium Pro

The 5th Wave by Rich Tennant



Monst, this is no way to deal with goor chat-line addiction."

soon, as vendors are preparing Pentium Pro desktops in their corporate lines. Dell plans to be one of the first to ship Pentium Pro-powered corporate desktop systems. It will add them to its OptiPlex line in June, sources said.

POPware pops out

47 Stimulate one's

all CASE compa

One-time Maphalo founder — and rock 'o' roll bandleader — Sean O'Sullivan will unveil his new firm, NetCentric Corp., and its new internet communications software, PDPware, next week. POPware was designed to let Internet service providers offer enhanced value-added serternet service providers offer enhanced value-added ser-

vices and, of course, charge customers accordingly.

Smart Aleck 101
The phenomenal lare of the Internet makes some wax
profe: Take Jim Manni, CEO of Industry-Net. During the
Seybold conference. Manni quipped that he would soon
be tracking an adult elevation course at Harvard on the
existential similarities between 'The Love Song of J.A'
red Parafrock' and the 'Tove stong of the Internet."

Our of our many Internet per pais passed along Tibes to From You Very Our Silices Wildes Search, by Learn Lenny (Immyllike com) Stop 1: Ge to Metal Paids, Call, and the Complete Complete Complete Complete Complete Wilder and Stop 2: Before the sensors continued regains his with, recite the following discontinue. Televrated Experiment commerce: Distributed enterprise-mattle applications commerce: Distributed enterprise-mattle applications commerce: Distributed enterprise-mattle applications of the Complete Complete Complete Complete Complete Complete mattless, Stop 5: In 18 minute, p. p. politic. Stop 6: After you million. Stop 5: In 18 minute, p. politic. Stop 6: After you receive your cheep, p. politic. Stop 6: After you 7: Claim dt. What! And shild your tensiting, why set ship 7: Claim dt. What! And shild your tensiting, why set ship 7: Claim dt. What! And shild your tensiting, why set ship 7: Claim dt. What! And shild your tensiting, why set ship 7: Claim dt. What! And shild your tensiting why set ship 8: And the Complete Complete Complete Complete Complete 9: And the Complete Complete Complete Complete Complete 1: And the Complete Complete Complete Complete Complete Complete 1: And the Complete Complete Complete Complete Complete Complete 1: And the Complete Comple

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